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INSTALLATION RESTORATION PROGRAM

STAGE 3

REMEDIAL INVESTIGATION/FEASIBILITY STUDY

ELMENDORF AIR FORCE BASE, ALASKA

1

AD-A227 503

PREPARED BY:

BLACK & VEATCH, ENGINEERS-ARCHITECTS

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OVERLAND PARK, KANSAS 66211

MAY 1990

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ELECTE
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S D

FINAL REPORT

VOLUME 4 OF 6

APPENDICES D - F

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PREPARED FOR:

HEADQUARTERS ALASKAN AIR COMMAND

ELMENDORF AFB, AK

UNITED STATES AIR FORCE

OCCUPATIONAL & ENVIRONMENTAL HEALTH LABORATORY (AFSC)

TECHNICAL SERVICES DIVISION (AFOEHL/TS)

BROOKS AIR FORCE BASE, TEXAS 78235-5501

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IRP STAGE 3 RI/FS
ELMENDORF AFB, ALASKA
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J	
per call	
A-1	

STATEMENT "A" per Lt. Rebecca Bartine
AF Occupational & Environmental Health
Laboratory/HSD-YABQ, Bldg. 624 West
Brooks AFB, TX 78235-5501
TELECON 10/2/90 VG

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IRP STAGE 3 RI/FS

ELMENDORF AFB, AK

APPENDIX D

RAW FIELD DATA

Ground Penetrating Radar

GROUND PENETRATING RADAR SURVEY PARAMETERS

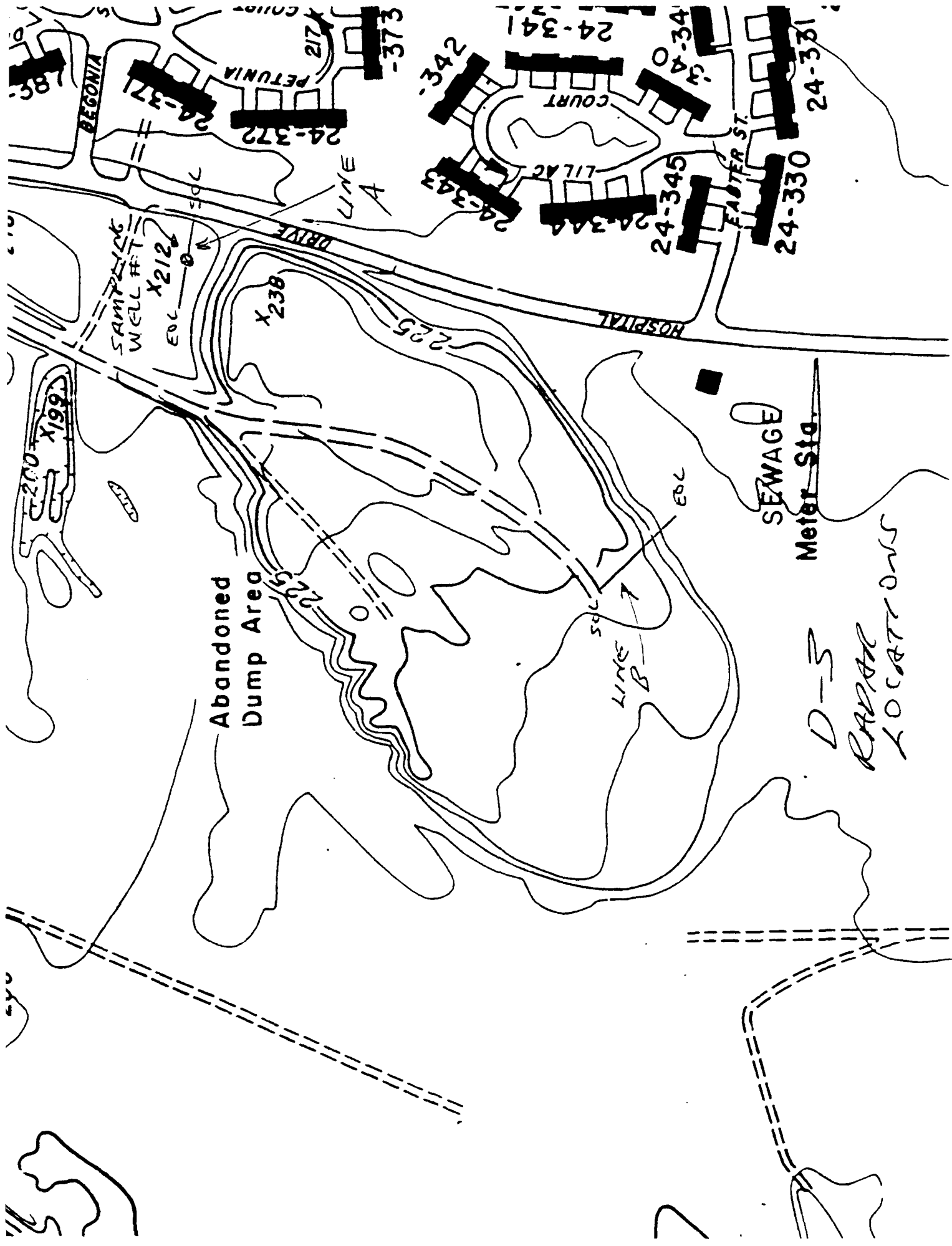
SITES D-3, D-13, D-15
I.S. 1 → 8

INSTRUMENTATION

GEOPHYSICAL SURVEY SYSTEMS, INC
GSSI SIR SYSTEM-3
ANTENNA - 500 MHz

PRINT POLARITY \pm
RECORDED 100 LINES/INCH
RADAR 16 SCANS/SEC
FULL SCALE RANGE 50 NS

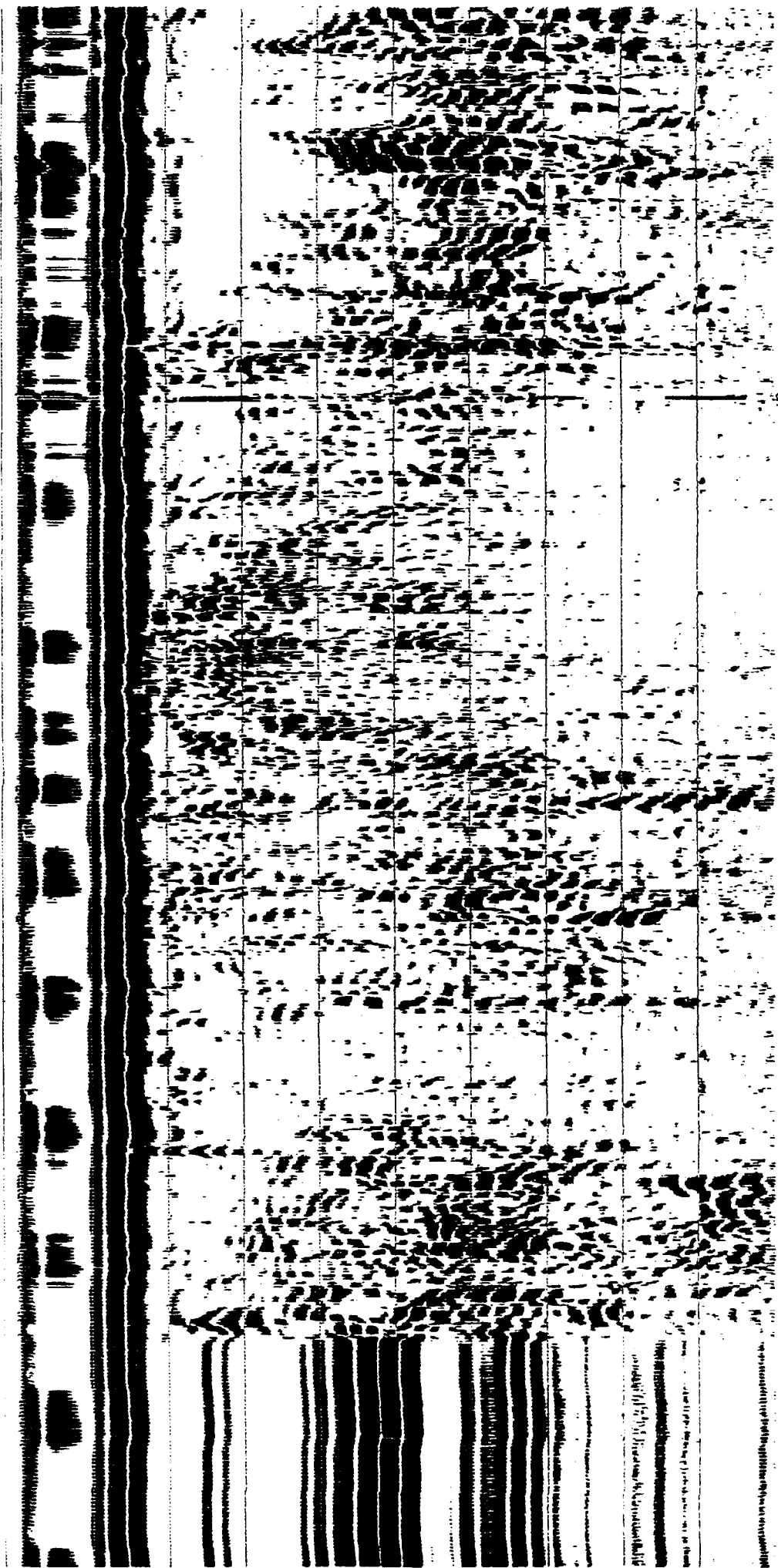
SITE TESTING AT SP-5
PROVIDED A VELOCITY OF
6.67 NS/FOOT TWO-WAY
TIME. THEREFORE, 10 NS
= ABOUT $1\frac{1}{2}$ FEET OF
DEPTH. TIME BETWEEN
ANY 2 TIMING LINES IS
5 NS (50 NS FULL SCALE)



D-3
LINE A

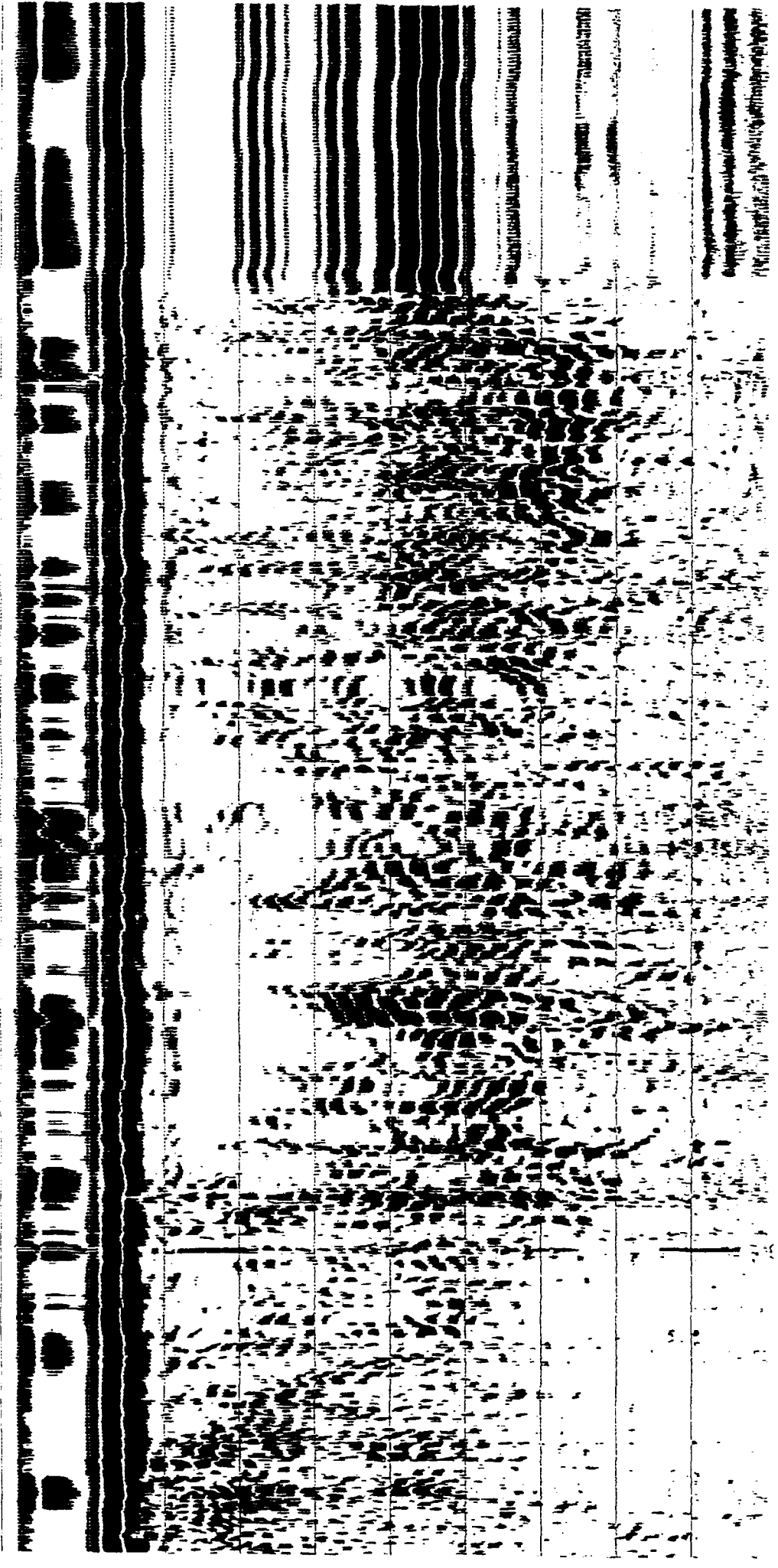
502

200



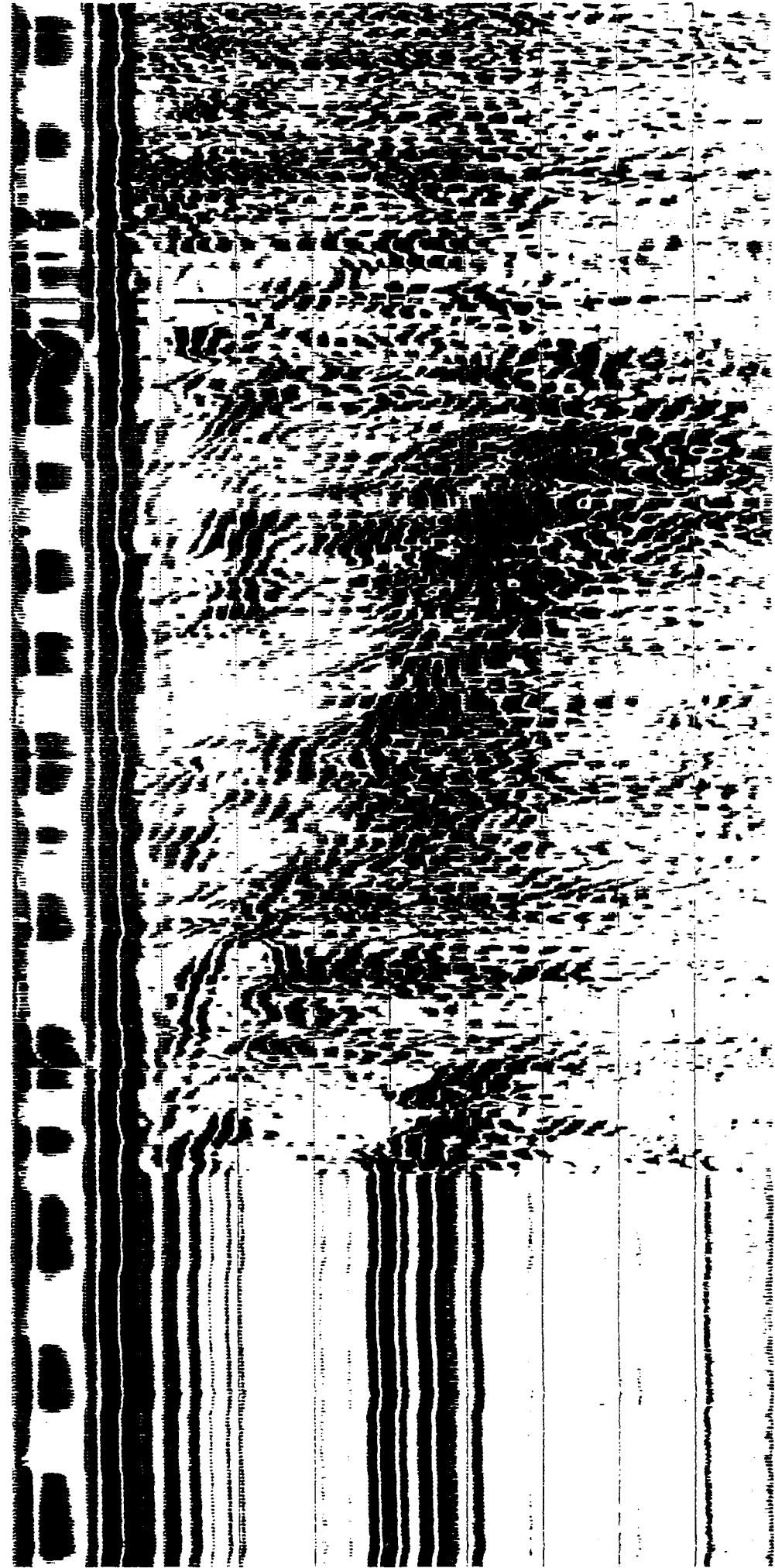
203

A



D-3
LINE B

SOL (EDGE OF
RVAO)

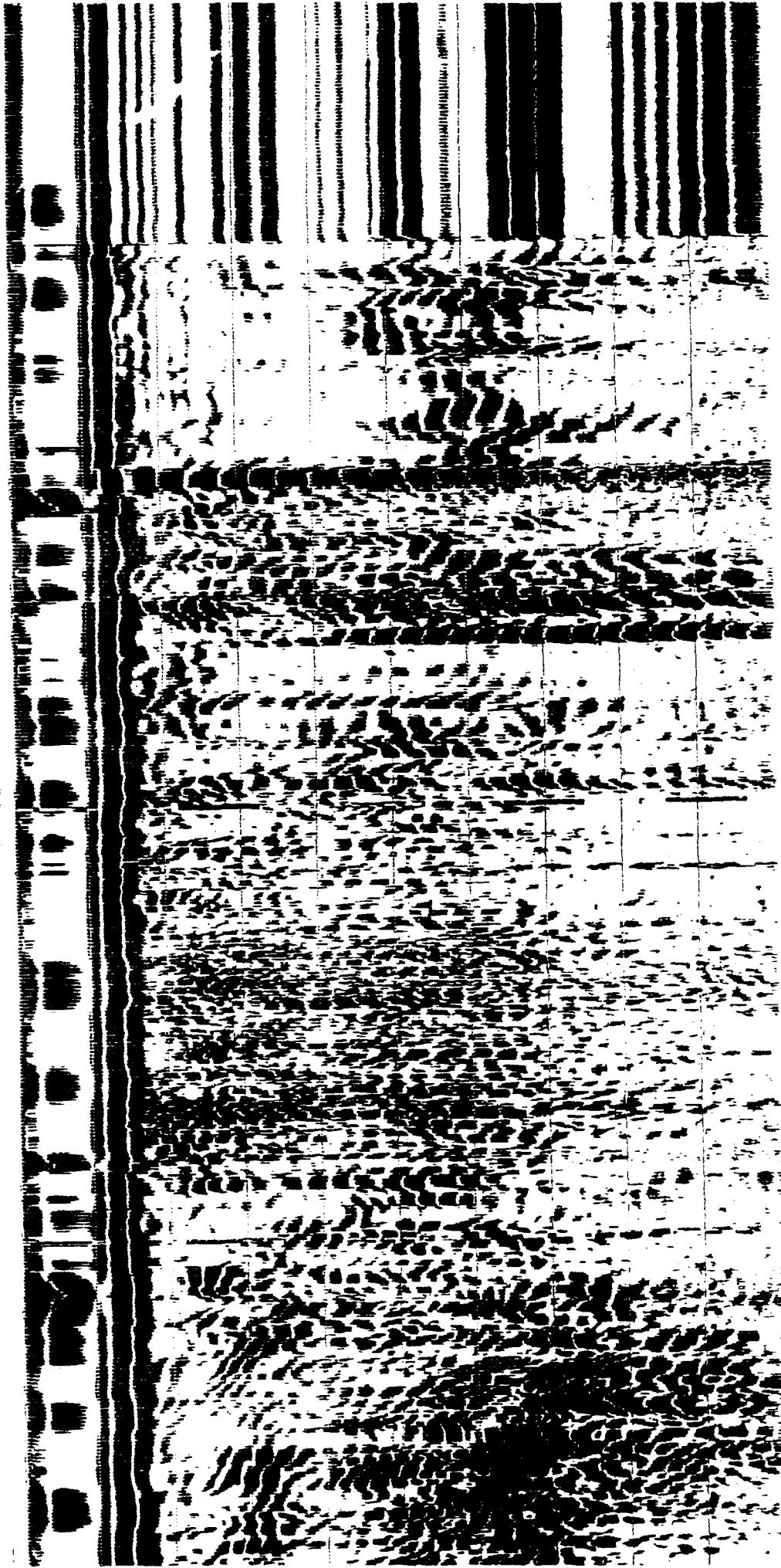


B

top of

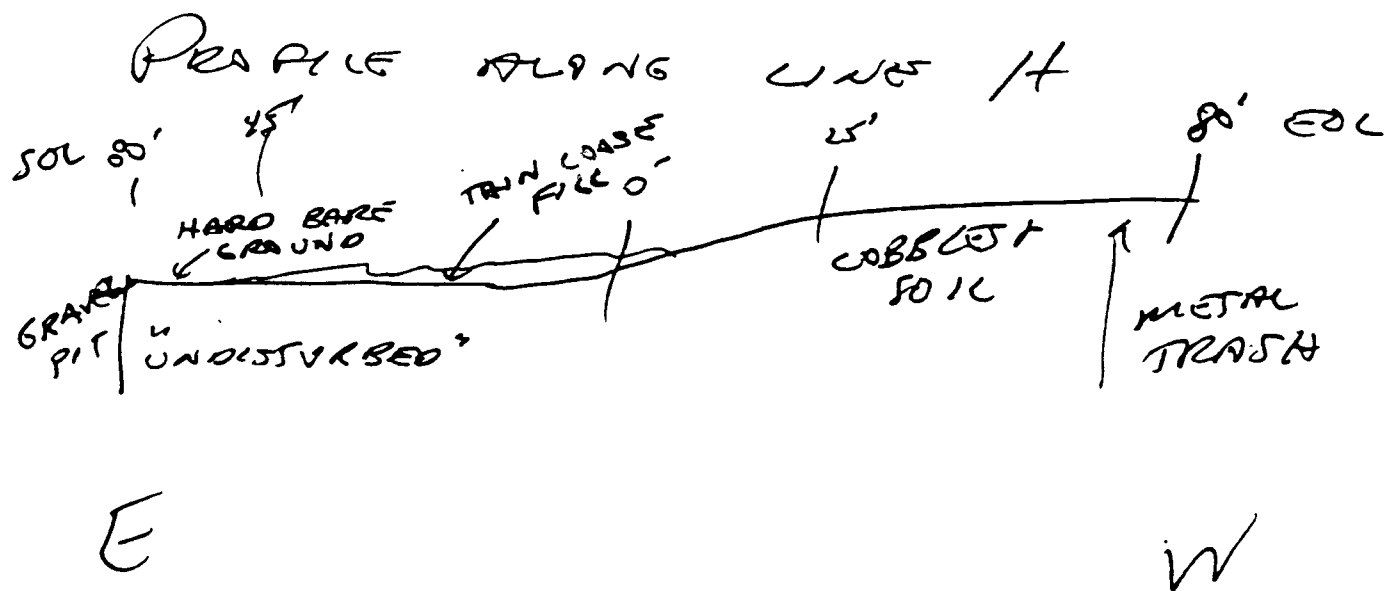
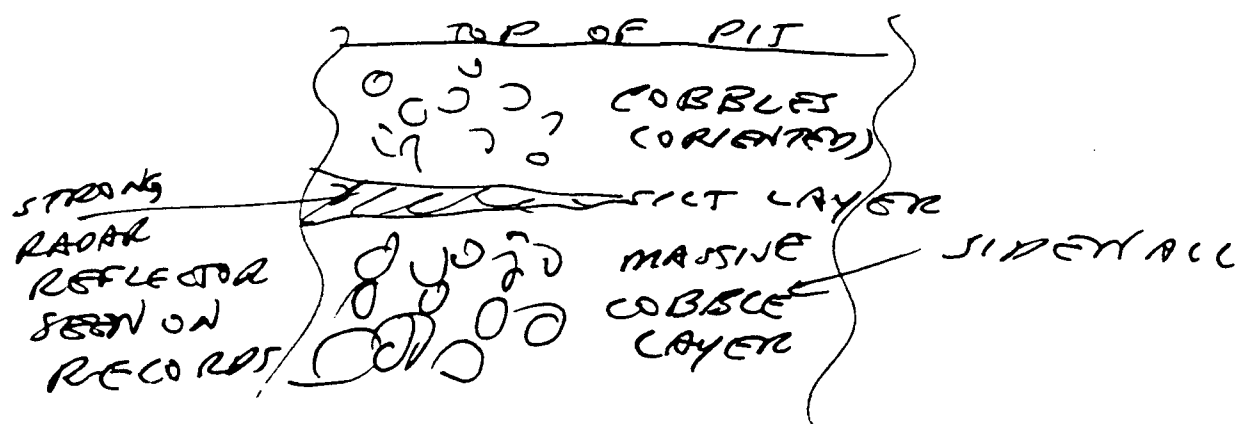
to 300m

200

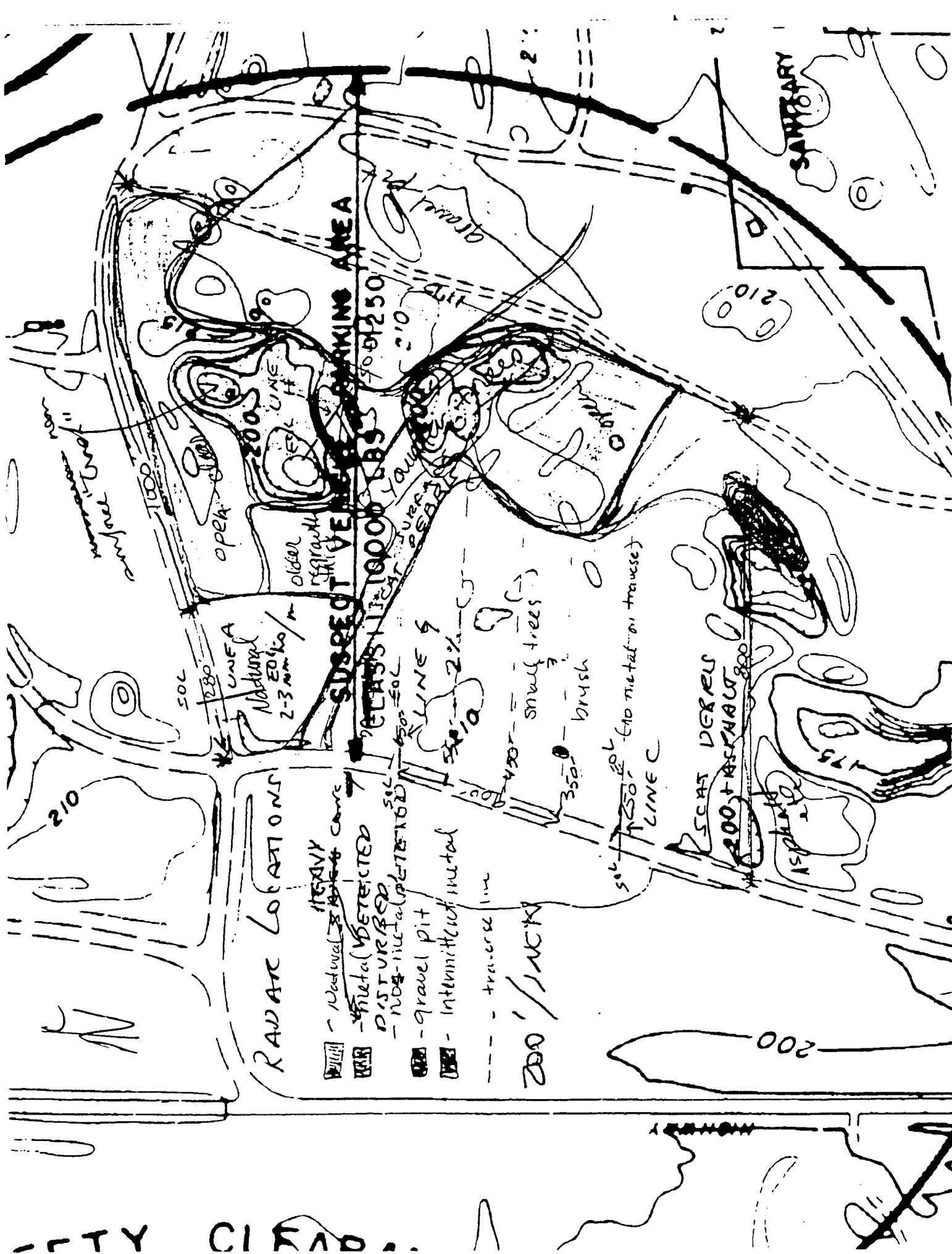


D-13

LINE H RUNS E→W FROM THE
EDGE OF THE GRAVEL PIT - WHICH
VISUALLY CAN BE DOCUMENTED
IN SIDE WALL AS UNDISTURBED
(NATURAL)



RTY CLEAR..

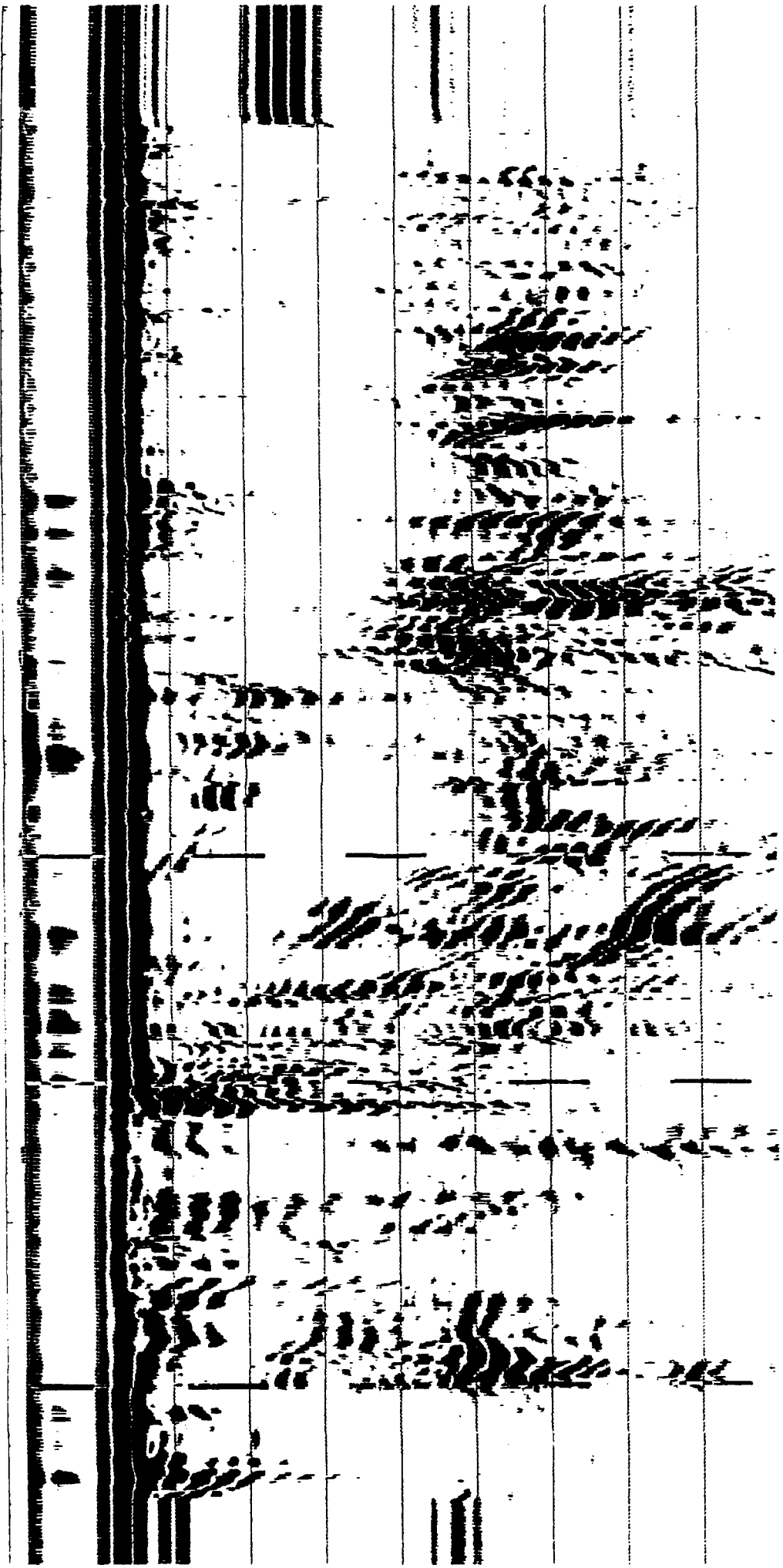


D-13
LINEA

← ROAD →

50c

60c

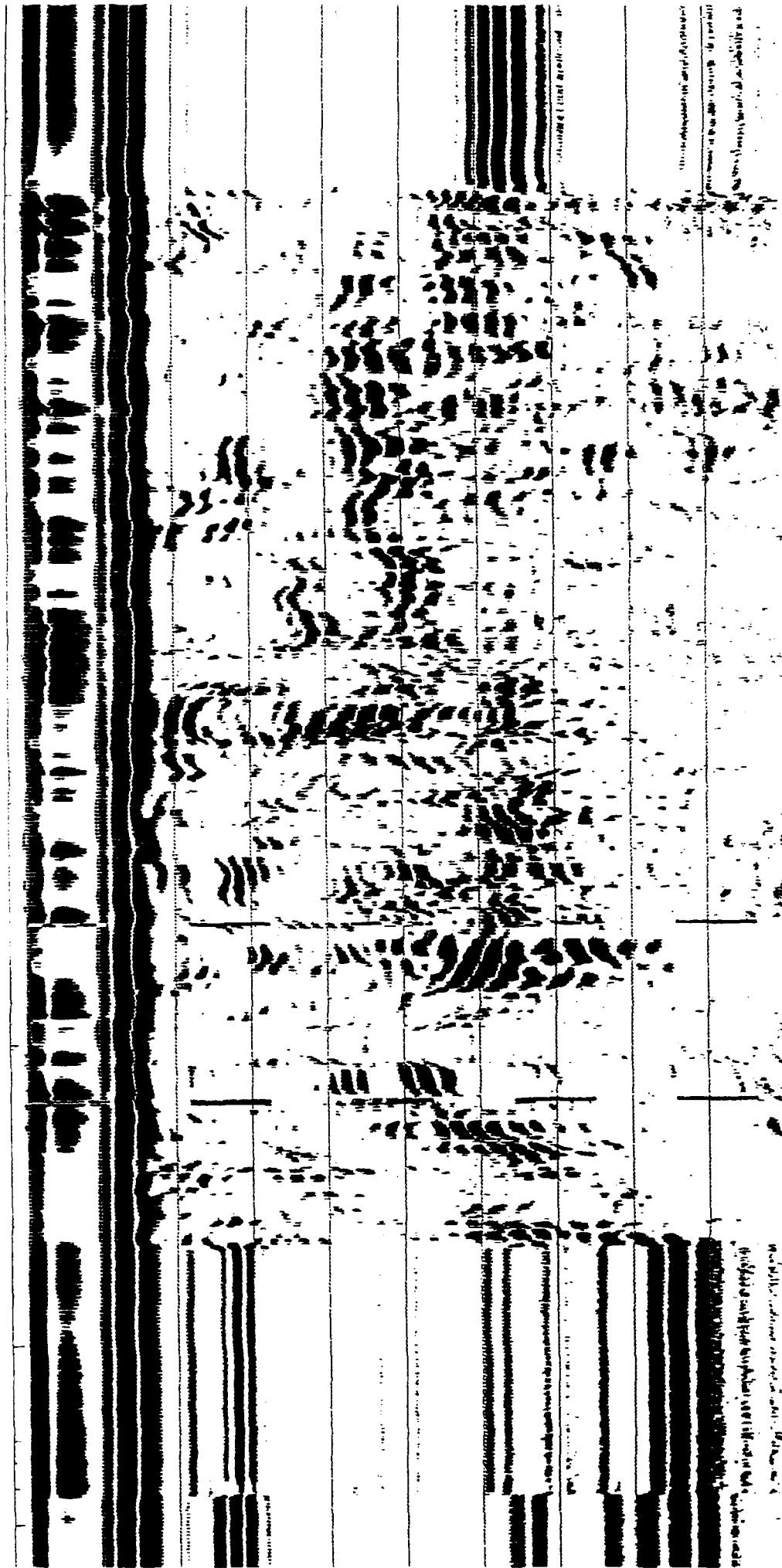


D-13
LINE C

50C

← ROAD →

EOC



D-13
LINE F
(REUSE 5F9)

50C

606



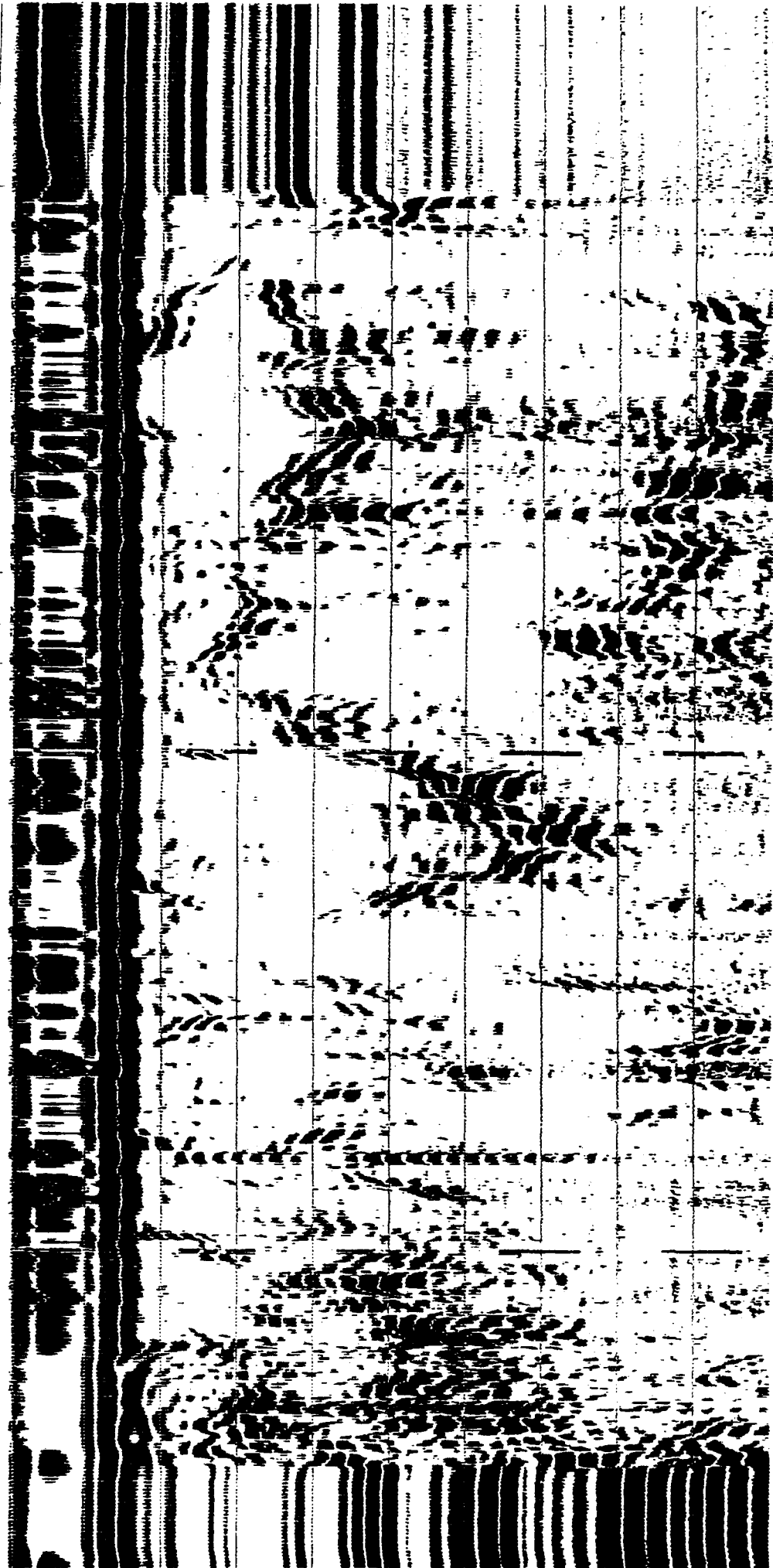
D-13
LINE S
500

ROAD ←

RAVINE

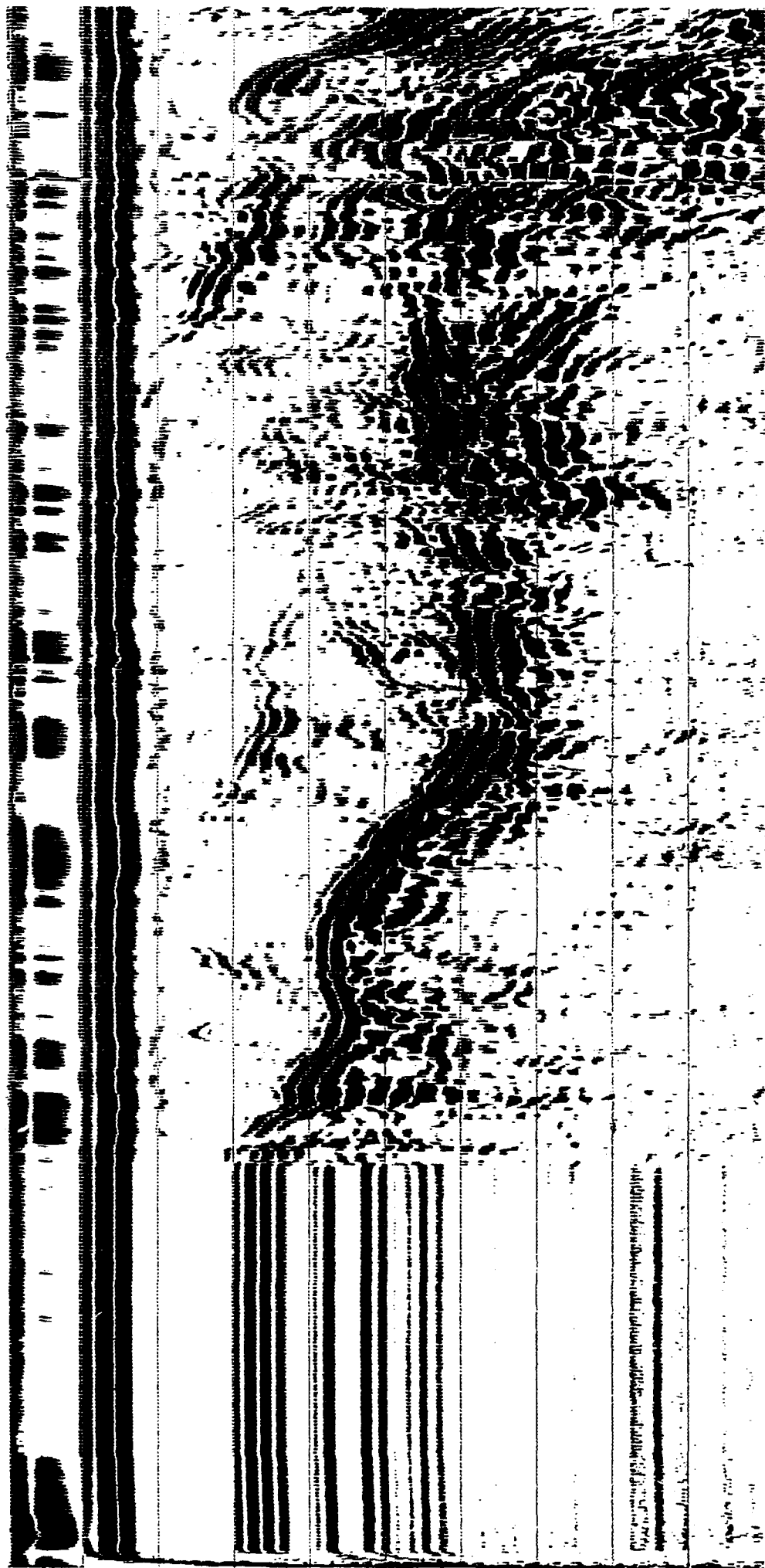
BACK

606

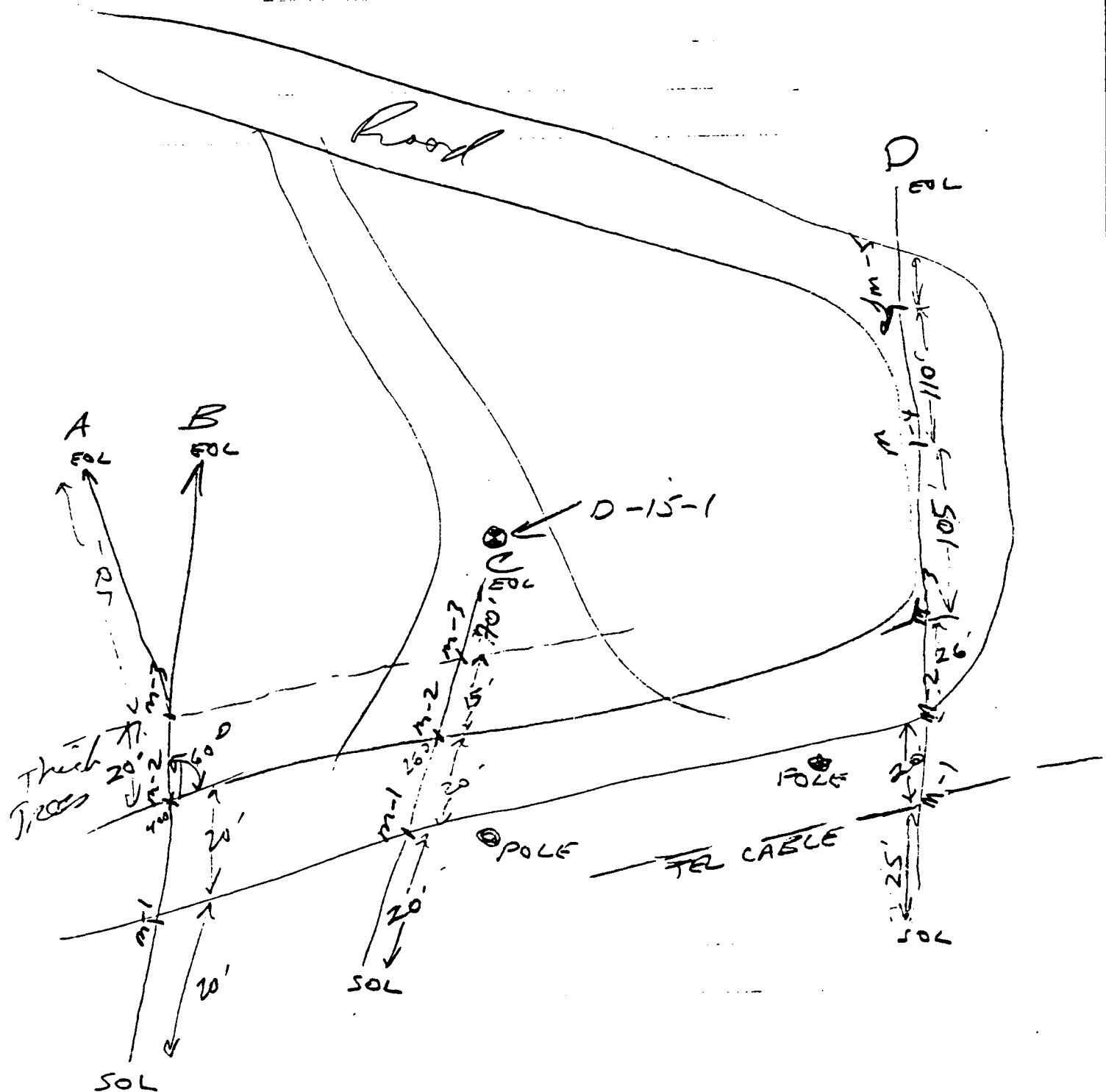


D-13
LINE 4

506



1. The first group of variables is the "demographic" group, which includes age, sex, and education. These variables are used to control for differences in the population that might affect the results. For example, older people might be more likely to have a higher level of education, which could in turn affect their health status.



0-15

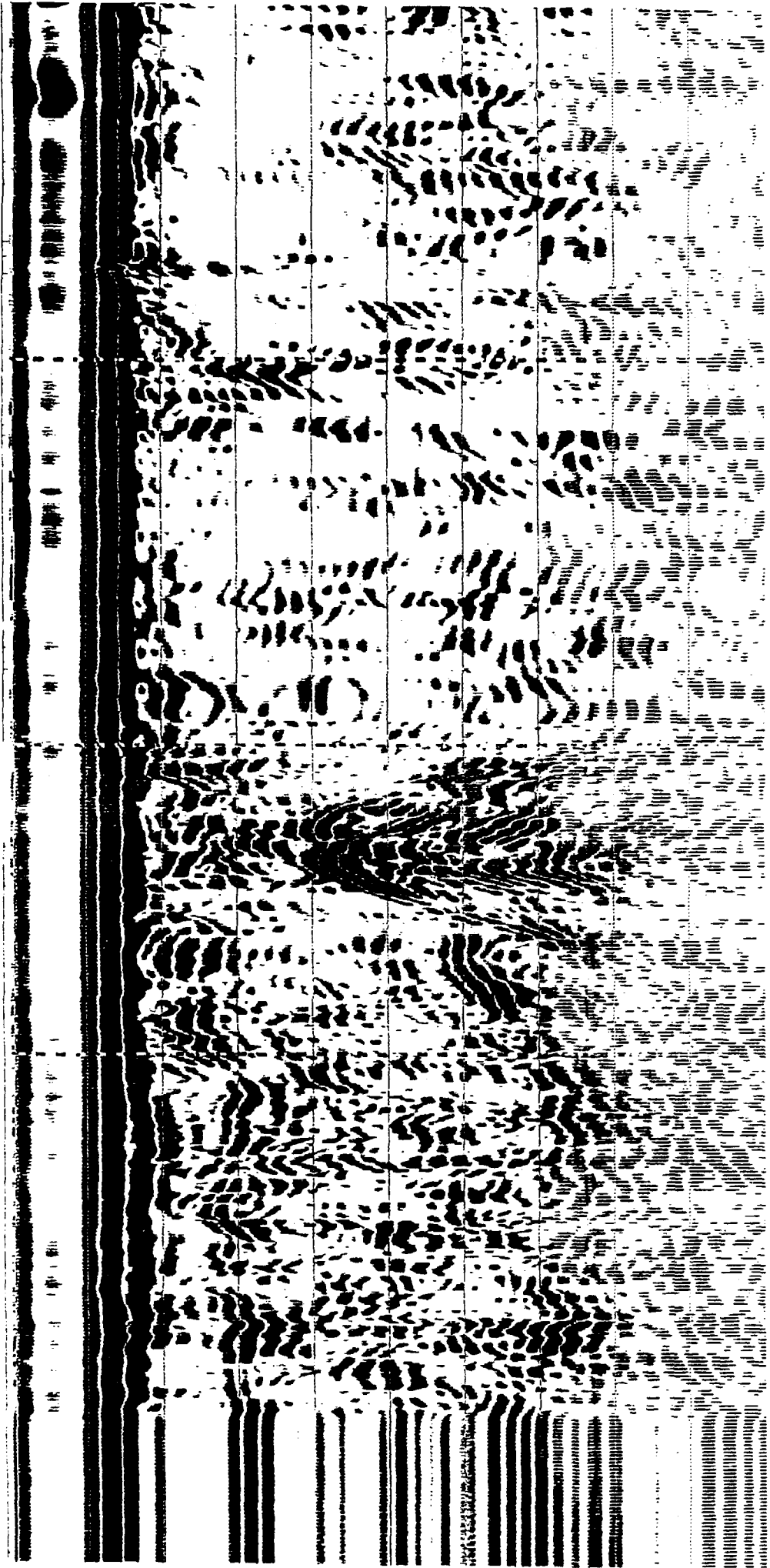
UNGA

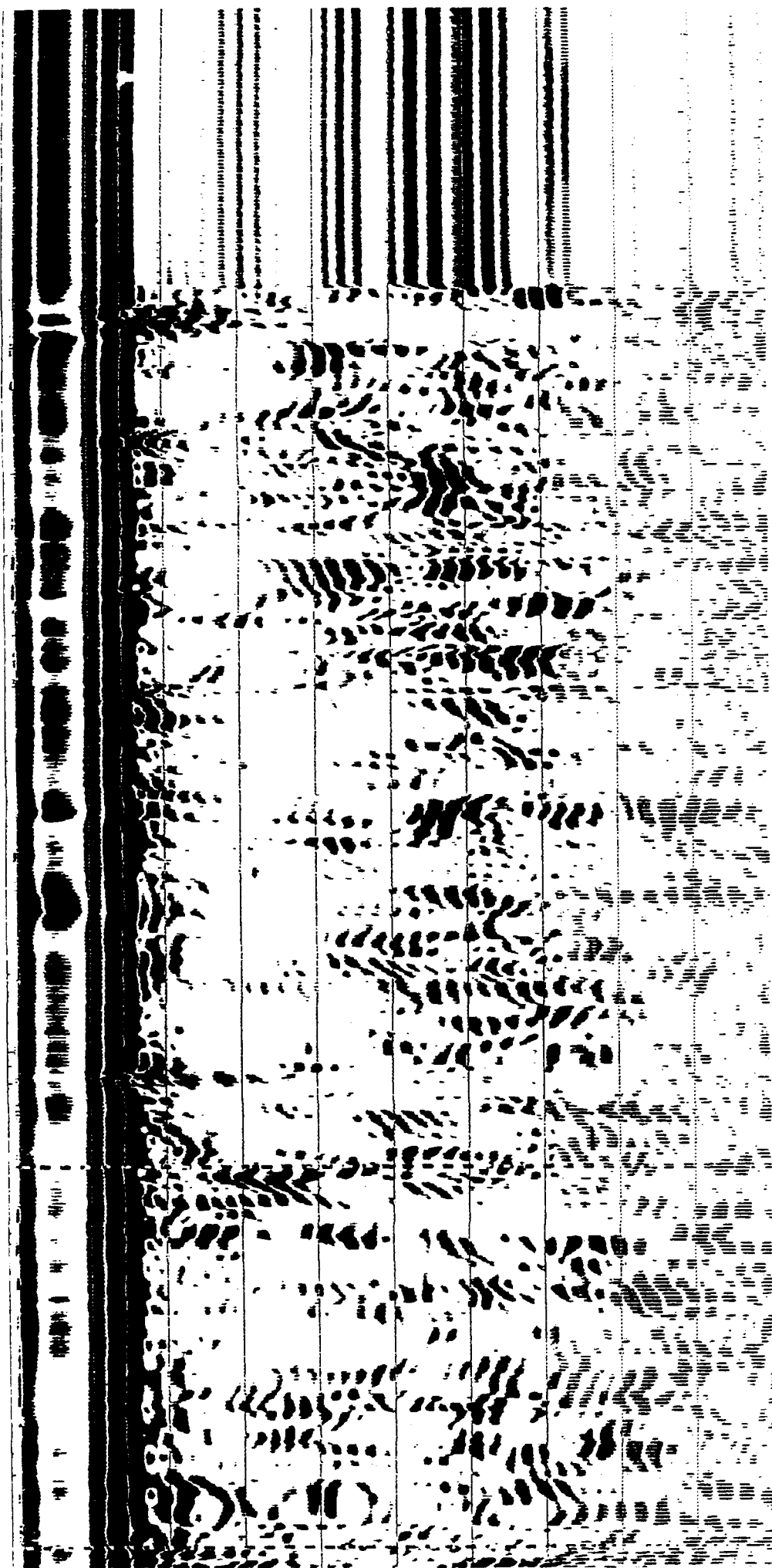
SOC

1

2

3





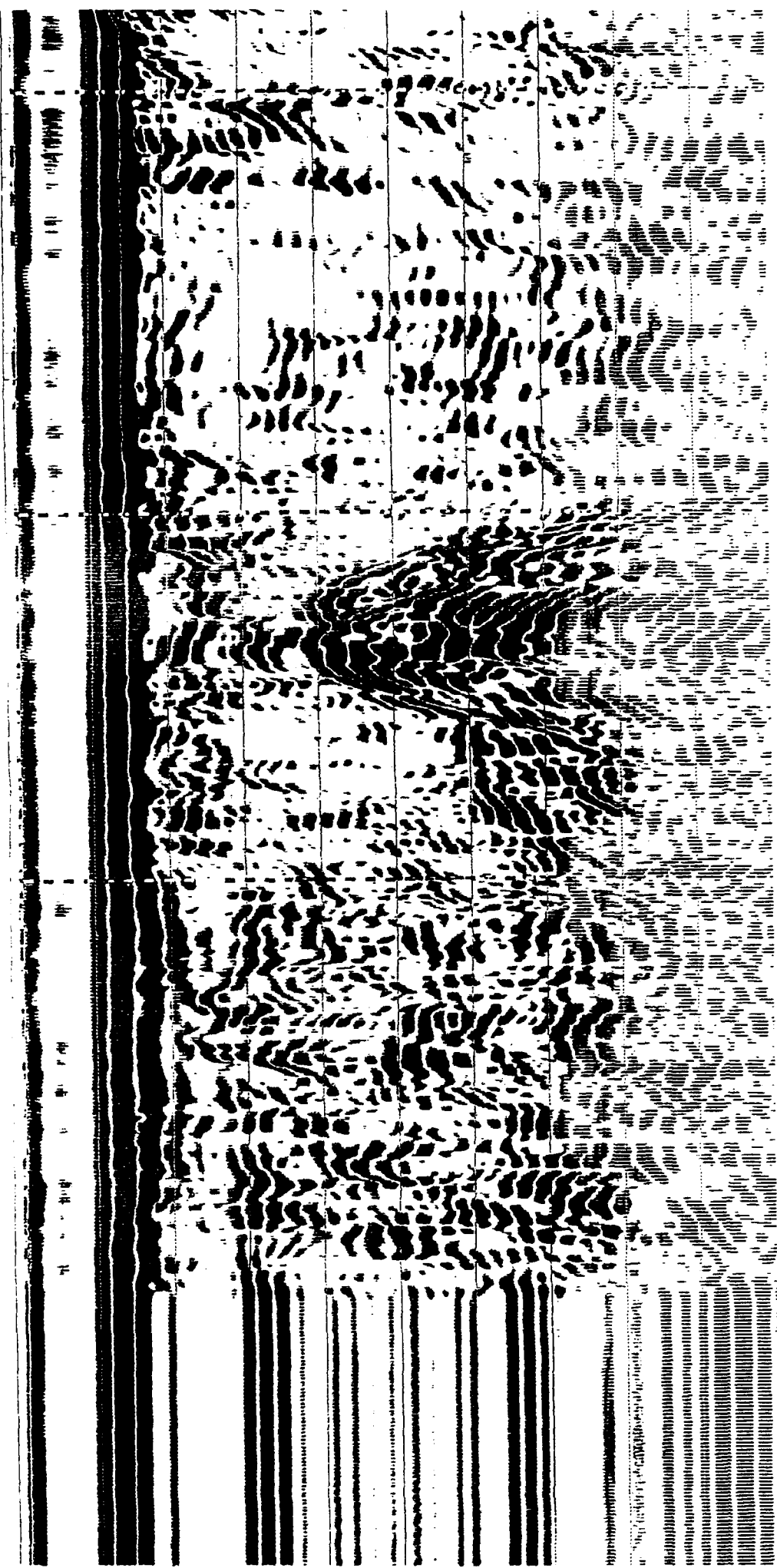
2-15
1258

502

1

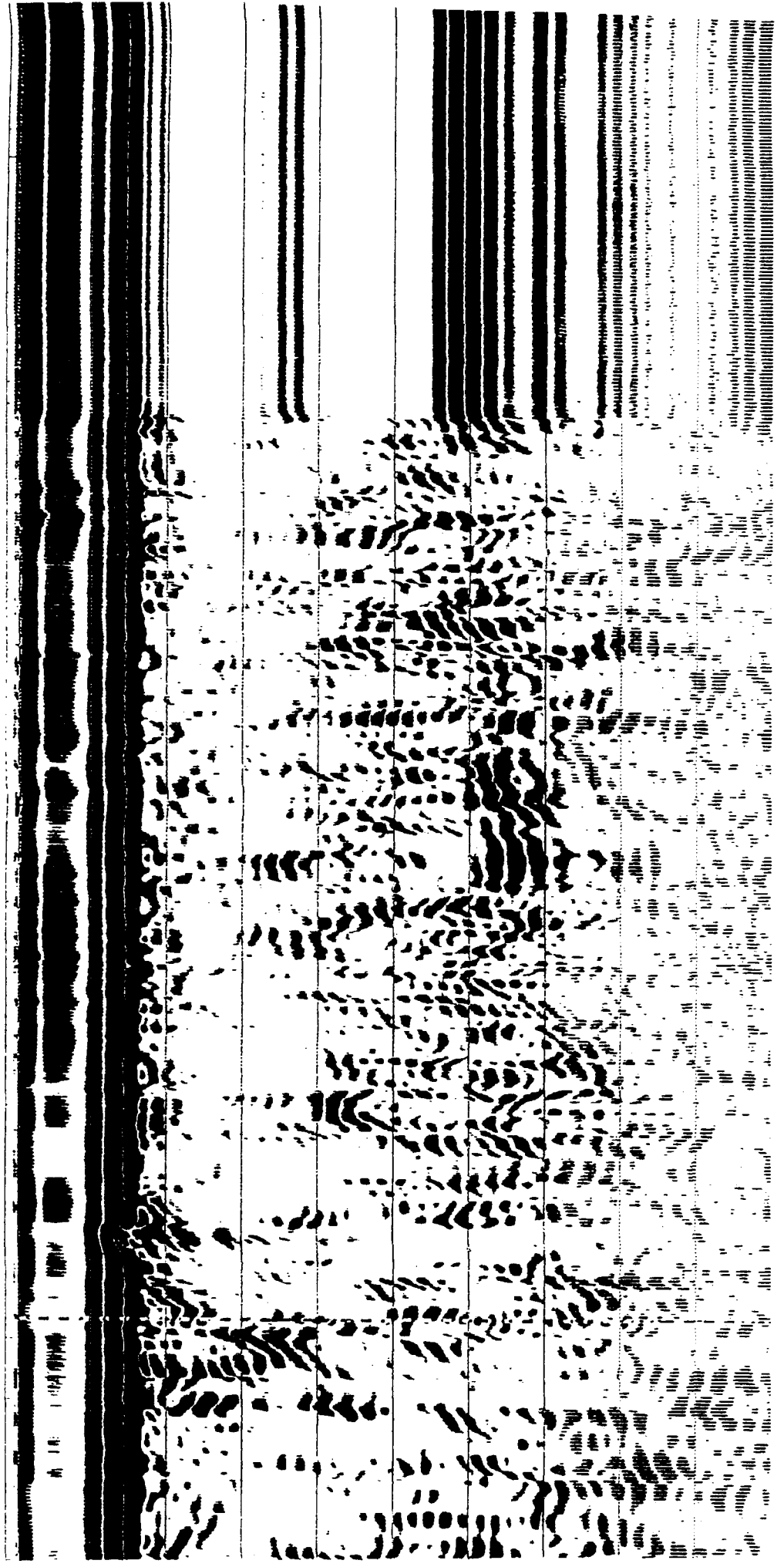
2

3



EDC

3



2-15
S/C

205

1

2

3



722

3



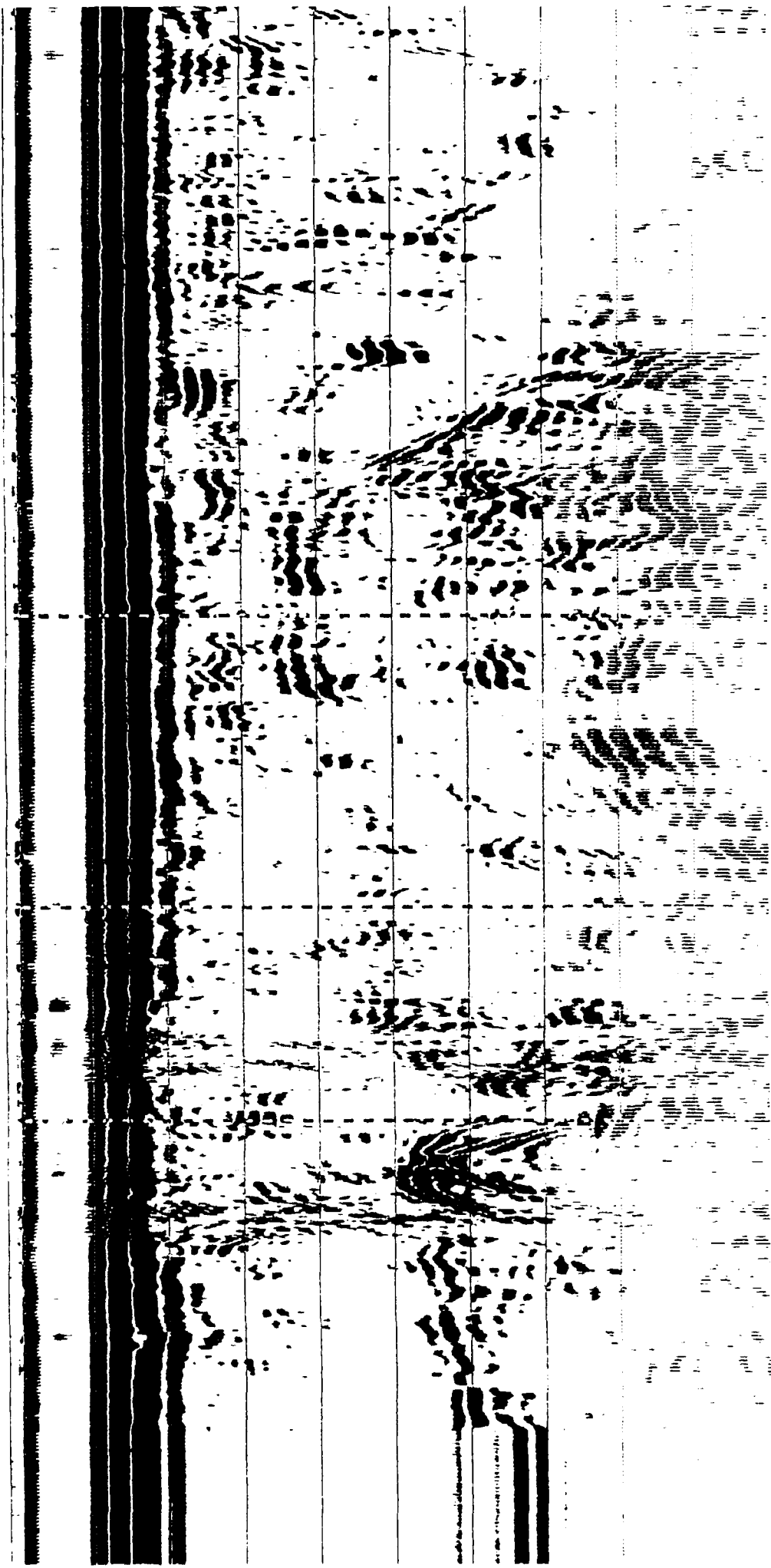
D-15
LINE D

502

3

2

1



4-205-74



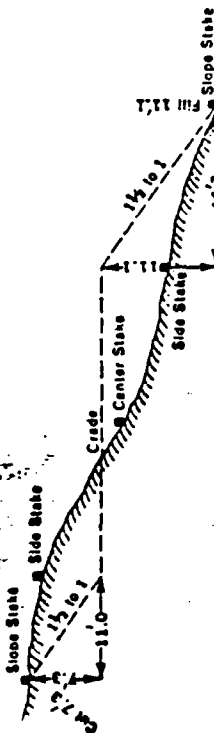
EO 7

5



DISTANCES FROM SIDE STAKES FOR CROSS-SECTIONING

In the figure below: opposite 7 under "Cut or Fill" and under .3 read 11.0, the distance out from the side stake at left. Also, opposite 11 under "Cut or Fill" and under .1 read 18.7, the distance out from the side stake at right.



Cut or Fill	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
	0.0	0.2	0.3	0.5	0.6	0.8	0.9	1.1	1.2	1.4	1.4	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2
1	1.6	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0	6.2	6.4	6.6	6.8	7.0	7.2
2	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.6	5.8	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.6	8.8	9.0	9.2
3	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0	6.2	6.4	6.6	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.6	8.8	9.0	9.2	9.4	9.6	9.8	10.0	10.2	10.4	10.6	10.8
4	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.4	7.6	7.8	8.0	8.6	8.8	9.0	9.2	9.4	9.6	9.8	10.0	10.2	10.4	10.6	10.8	11.0	11.2	11.4	11.6	11.8	12.0	12.2
5	7.6	7.8	8.0	8.2	8.4	8.6	8.8	9.0	9.2	9.4	9.6	10.2	10.4	10.6	10.8	11.0	11.2	11.4	11.6	11.8	12.0	12.2	12.4	12.6	12.8	13.0	13.2	13.4	13.6	13.8
6	9.0	9.2	9.4	9.6	9.8	10.0	10.2	10.4	10.6	10.8	11.0	11.6	11.8	12.0	12.2	12.4	12.6	12.8	13.0	13.2	13.4	13.6	13.8	14.0	14.2	14.4	14.6	14.8	15.0	15.2
7	10.6	10.8	11.0	11.2	11.4	11.6	11.8	12.0	12.2	12.4	12.6	13.2	13.4	13.6	13.8	14.0	14.2	14.4	14.6	14.8	15.0	15.2	15.4	15.6	15.8	16.0	16.2	16.4	16.6	16.8
8	12.0	12.2	12.4	12.6	12.8	13.0	13.2	13.4	13.6	13.8	14.0	14.6	14.8	15.0	15.2	15.4	15.6	15.8	16.0	16.2	16.4	16.6	16.8	17.0	17.2	17.4	17.6	17.8	18.0	18.2
9	13.6	13.8	14.0	14.2	14.4	14.6	14.8	15.0	15.2	15.4	15.6	16.2	16.4	16.6	16.8	17.0	17.2	17.4	17.6	17.8	18.0	18.2	18.4	18.6	18.8	19.0	19.2	19.4	19.6	19.8
10	15.0	15.2	15.4	15.6	15.8	16.0	16.2	16.4	16.6	16.8	17.0	17.6	17.8	18.0	18.2	18.4	18.6	18.8	19.0	19.2	19.4	19.6	19.8	20.0	20.2	20.4	20.6	20.8	21.0	21.2
11	16.6	16.8	17.0	17.2	17.4	17.6	17.8	18.0	18.2	18.4	18.6	19.2	19.4	19.6	19.8	20.0	20.2	20.4	20.6	20.8	21.0	21.2	21.4	21.6	21.8	22.0	22.2	22.4	22.6	22.8
12	18.0	18.2	18.4	18.6	18.8	19.0	19.2	19.4	19.6	19.8	20.0	20.6	20.8	21.0	21.2	21.4	21.6	21.8	22.0	22.2	22.4	22.6	22.8	23.0	23.2	23.4	23.6	23.8	24.0	24.2
13	19.6	19.8	20.0	20.2	20.4	20.6	20.8	21.0	21.2	21.4	21.6	22.2	22.4	22.6	22.8	23.0	23.2	23.4	23.6	23.8	24.0	24.2	24.4	24.6	24.8	25.0	25.2	25.4	25.6	25.8
14	21.0	21.2	21.4	21.6	21.8	22.0	22.2	22.4	22.6	22.8	23.0	23.6	23.8	24.0	24.2	24.4	24.6	24.8	25.0	25.2	25.4	25.6	25.8	26.0	26.2	26.4	26.6	26.8	27.0	27.2
15	22.6	22.8	23.0	23.2	23.4	23.6	23.8	24.0	24.2	24.4	24.6	25.2	25.4	25.6	25.8	26.0	26.2	26.4	26.6	26.8	27.0	27.2	27.4	27.6	27.8	28.0	28.2	28.4	28.6	28.8
16	24.0	24.2	24.4	24.6	24.8	25.0	25.2	25.4	25.6	25.8	26.0	26.6	26.8	27.0	27.2	27.4	27.6	27.8	28.0	28.2	28.4	28.6	28.8	29.0	29.2	29.4	29.6	29.8	30.0	30.2
17	25.6	25.8	26.0	26.2	26.4	26.6	26.8	27.0	27.2	27.4	27.6	28.2	28.4	28.6	28.8	29.0	29.2	29.4	29.6	29.8	30.0	30.2	30.4	30.6	30.8	31.0	31.2	31.4	31.6	31.8
18	27.0	27.2	27.4	27.6	27.8	28.0	28.2	28.4	28.6	28.8	29.0	29.6	29.8	30.0	30.2	30.4	30.6	30.8	31.0	31.2	31.4	31.6	31.8	32.0	32.2	32.4	32.6	32.8	33.0	33.2
19	28.6	28.8	29.0	29.2	29.4	29.6	29.8	30.0	30.2	30.4	30.6	31.2	31.4	31.6	31.8	32.0	32.2	32.4	32.6	32.8	33.0	33.2	33.4	33.6	33.8	34.0	34.2	34.4	34.6	34.8
20	30.0	30.2	30.4	30.6	30.8	31.0	31.2	31.4	31.6	31.8	32.0	32.6	32.8	33.0	33.2	33.4	33.6	33.8	34.0	34.2	34.4	34.6	34.8	35.0	35.2	35.4	35.6	35.8	36.0	36.2
21	31.6	31.8	32.0	32.2	32.4	32.6	32.8	33.0	33.2	33.4	33.6	34.2	34.4	34.6	34.8	35.0	35.2	35.4	35.6	35.8	36.0	36.2	36.4	36.6	36.8	37.0	37.2	37.4	37.6	37.8
22	33.0	33.2	33.4	33.6	33.8	34.0	34.2	34.4	34.6	34.8	35.0	35.6	35.8	36.0	36.2	36.4	36.6	36.8	37.0	37.2	37.4	37.6	37.8	38.0	38.2	38.4	38.6	38.8	39.0	39.2
23	34.6	34.8	35.0	35.2	35.4	35.6	35.8	36.0	36.2	36.4	36.6	37.2	37.4	37.6	37.8	38.0	38.2	38.4	38.6	38.8	39.0	39.2	39.4	39.6	39.8	40.0	40.2	40.4	40.6	40.8
24	36.0	36.2	36.4	36.6	36.8	37.0	37.2	37.4	37.6	37.8	38.0	38.6	38.8	39.0	39.2	39.4	39.6	39.8	40.0	40.2	40.4	40.6	40.8	41.0	41.2	41.4	41.6	41.8	42.0	42.2
25	37.6	37.8	38.0	38.2	38.4	38.6	38.8	39.0	39.2	39.4	39.6	40.2	40.4	40.6	40.8	41.0	41.2	41.4	41.6	41.8	42.0	42.2	42.4	42.6	42.8	43.0	43.2	43.4	43.6	43.8
26	39.0	39.2	39.4	39.6	39.8	40.0	40.2	40.4	40.6	40.8	41.0	41.6	41.8	42.0	42.2	42.4	42.6	42.8	43.0	43.2	43.4	43.6	43.8	44.0	44.2	44.4	44.6	44.8	45.0	45.2
27	40.6	40.8	41.0	41.2	41.4	41.6	41.8	42.0	42.2	42.4	42.6	43.2	43.4	43.6	43.8	44.0	44.2	44.4	44.6	44.8	45.0	45.2	45.4	45.6	45.8	46.0	46.2	46.4	46.6	46.8
28	42.0	42.2	42.4	42.6	42.8	43.0	43.2	43.4	43.6	43.8	44.0	44.6	44.8	45.0	45.2	45.4	45.6	45.8	46.0	46.2	46.4	46.6	46.8	47.0	47.2	47.4	47.6	47.8	48.0	48.2
29	43.6	43.8	44.0	44.2	44.4	44.6	44.8	45.0	45.2	45.4	45.6	46.2	46.4	46.6	46.8	47.0	47.2	47.4	47.6	47.8	48.0	48.2	48.4	48.6	48.8	49.0	49.2	49.4	49.6	49.8
30	45.0	45.2	45.4	45.6	45.8	46.0	46.2	46.4	46.6	46.8	47.0	47.6	47.8	48.0	48.2	48.4	48.6	48.8	49.0	49.2	49.4	49.6	49.8	50.0	50.2	50.4	50.6	50.8	51.0	51.2
31	46.6	46.8	47.0	47.2	47.4	47.6	47.8	48.0	48.2	48.4	48.6	49.2	49.4	49.6	49.8	50.0	50.2	50.4	50.6	50.8	51.0	51.2	51.4	51.6	51.8	52.0	52.2	52.4	52.6	52.8
32	48.0	48.2	48.4	48.6	48.8	49.0	49.2	49.4	49.6	49.8	50.0	50.6	50.8	51.0	51.2	51.4	51.6	51.8	52.0	52.2	52.4	52.6	52.8	53.0	53.2	53.4	53.6	53.8	54.0	54.2
33	49.6	49.8	50.0	50.2	50.4	50.6	50.8	51.0	51.2	51.4	51.6	52.2	52.4	52.6	52.8	53.0	53.2	53.4	53.6	53.8	54.0	54.2	54.4	54.6	54.8	55.0	55.2	55.4	55.6	55.8
34	51.0	51.2	51.4	51.6	51.8	52.0	52.2	52.4	52.6	52.8	53.0	53.6	53.8	54.0	54.2	54.4	54.6	54.8	55.0	55.2	55.4	55.6	55.8	56.0	56.2	56.4	56.6	56.8	57.0	57.2
35	52.6	52.8	53.0	53.2	53.4	53.6	53.8	54.0	54.2	54.4	54.6	55.2	55.4	55.6	55.8	56.0	56.2	56.4	56.6	56.8	57.0	57.2	57.4	57.6	57.8	58.0	58.2	58.4	58.6	58.8
36	54.0	54.2	54.4	54.6	54.8	55.0	55.2	55.4	55.6	55.8	56.0	56.6	56.8	57.0	57.2	57.4	57.6	57.8	58.0	58.2	58.4	58.6	58.8	59.0	59.2	59.4	59.6	59.8	60.0	60.2
37	55.6	55.8	56.0	56.2	56.4	56.6	56.8	57.0	57.2	57.4	57.6	58.2	58.4	58.6	58.8	59.0	59.2	59.4	59.6	59.8	60.0	60.2	60.4	60.6	60.8	61.0	61.2	61.4	61.6	61.8
38	57.0	57.2	57.4	57.6	57.8	58.0	58.2	58.4	58.6	58.8	59.0	59.6	59.8	60.0	60.2	60.4	60.6	60.8	61.0	61.2	61.4	61.6	61.8	62.0	62.2	62.4	62.6	62.8	63.0	63.2
39	58.6	58.8	59.0	59.2	59.4	59.6	59.8	60.0	60.2	60.4	60.6	61.2	61.4	61.6	61.8	62.0	62.2	62.4	62.6	62.8	63.0	63.2	63.4	63.6	63.8	64.0	64.2	64.4	64.6	64.8
40	60.0	60.2	60.4	60.6	60.8	61.0	61.2	61.4	61.6	61.8	62.0	62.6	62.8	63.0	63.2	63.4	63.6	63.8	64.0	64.2	64.4	64.6	64.8	65.0	65.2	65.4	65.6	65.8	66.0	66.2

ELMAN DORF
AIR FORCE BASE
ANCHORAGE, AK

PROJECT NO. 8850053A
TASK 0210

GEOPHYSICS

Robert M. Beer
Consulting Geophysicist

Woodward-Clyde Consultants
Consulting Engineers, Geologists, and Environmental Scientists

203 North Golden Circle Drive
Santa Ana, California 92705
(714) 835-6886 (213) 581-7164
Telex 68-3420



24 JUNE 1988

Friday

0800

ARRIVE CINCINNATI -
CARE OFFICE ASSASSIN
TRANSIT FROM SOUTHERN
CINCINNATI THE PREVIOUS
DAY.

PROJECT INTRODUCTION

1030

PICK UP PHYSICAL
EQUIPMENT AT AIRPORT
HARNESS FREIGHT DOCK.

1145

REVIEW SCOPE OF WORK

1330

SITE VISIT TO EMERSON
AFB WITH ROBIN HAMPTON
(BEARD LIEUTENANT), MET
WITH MIKE DREWITT
(CIVIC ENGINEER - USAR
CIVILIAN EMPLOYEE)
AND LT COLUREY SUSAN
FIRE SAFETY PRESENTER
TO SITE SAFETY DOC

2

INITIAL VISUAL ASSESSMENT
+ CRYOUT OF WORKER FROM
FOR SCOUTS OF WORK.
MET WITH CHIEF OF POLICE
PERSONNEL.

1630 RETURNED TO WCC
OFFICE, REVIEWED
SCOUTS OF WORK IN
CLOUT OF SITE VISIT
WITH WCC PERSONNEL,
REMOVED HAZARD
HAZARD FROM AND
GAP

1900 DEPARTED OFFICE

R.

25 June 1988

Saturday

1800

LOGISTICS & MOBILIZATION
OF ~~BRU~~ UNIT AT
VCC OFFICE. NO
FIELD WORK

2200

COMPLETED TASK

2

26 JUNE 1980

SUNDAY

0600

ARRIVE OFFICE AND
CHECK OVER SITE MAPS

0700

DEPART FOR CONCORD

0710

WET BACK, VENTRA
REFORMER (ROBIN
HARVEY & KERRY ROSE)
AT MAN CATS AND
PROCEED TO SP-5

0720

ON SITE, SITE ORIGINALLY
LAY OUT AND CHECK OUT
GEOPHYSICAL INSTRUMENT
RECONSTRUCT W/ NEW MAP
ACQUIRED FRIDAY PM
FROM MIKE DESLOTT
TEST EQUIPMENT AND
LOCATE COOP PIPING
& CHARACTERIZE SITE
WITH EM - 31. ~~ANALYZE~~
CONDUCTIVITY 25-30
mhos/cm.

2

1000

TEMP 35°F, LIGHT
WINDS, CLOUDY

1030

BEGIN RAINING

1100

DEPARTED STATION
OFFICE

1120

ARRIVED OFFICE,
WAS UP TO TASK
FOR TODAY.

27 June 1968

Monday

0600 Arrive office

0830 Review design drawings
and make corrections by
instrumental electric.
Arrange to have OTC
shipped to Anchorage

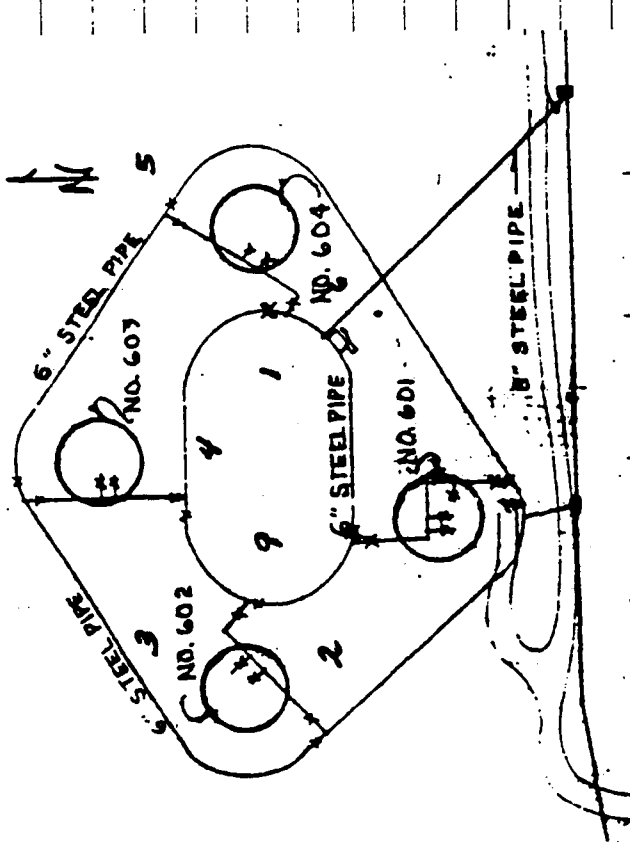
1030 Depart for ECMOROC
complete surveying &
general observation
Temp mid 50's F, clear
steady rain, overcast
winds 0-5 kts

1200 Begin fieldwork on
SP-5, making up
fuel piping, cleared
7 boring locations.
Coordinate w/ WAFECU
personnel. Arrive 8th Army.

1600 Depart for office to review

R

LOCATED PROPOSED LOCATION OF 8 BURNERS



BORING LOGS*	NOTES
#1 8	
#2 34/12*	MOVED * NEW LOCATION
#3 18*	OVER EX. LINE - MOVED
#4 10	
#5 8	
#6 17-18	
#7 24-25	ELECTRICAL CABLES AND FUEL PIPES NEARBY
#9 7	
* APPARENT GROUND CONDUCTIVITY IN MMHO/MV	

FUEL MAPS PROVIDED
AND OGD MAPS OF
KTV OCCUPANCY
CLUES.

1800 COMPACTS TAKEN FOR
DRUG.

28 JUNE 1988 TUESDAY

0600 ARRIVE OFFICE

MORNING WENTHER

TEMP - 49°F RH - 70%

BARO - 30.18 DP - 44"

WINDS CALM

MOISTY CLOUDY

0800 ON SITE 5P-5, LOCATE

AND MAP FUEL PIPING -

INNER & OUTER LOOPS,

INTERCONNECTING LINES,

DOCUMENT PHYSICAL

CONNECTIONS AT COORDINATES

FUEL PIPING IS ACCORDING

TO DRAWING AT

LEFT AS FOLLOWS:

ILP = 6"Ø INNER LOOP PIPE

ILTP = INNER LOOP TANK PIPE

⊗ = VALVE & WHEEL

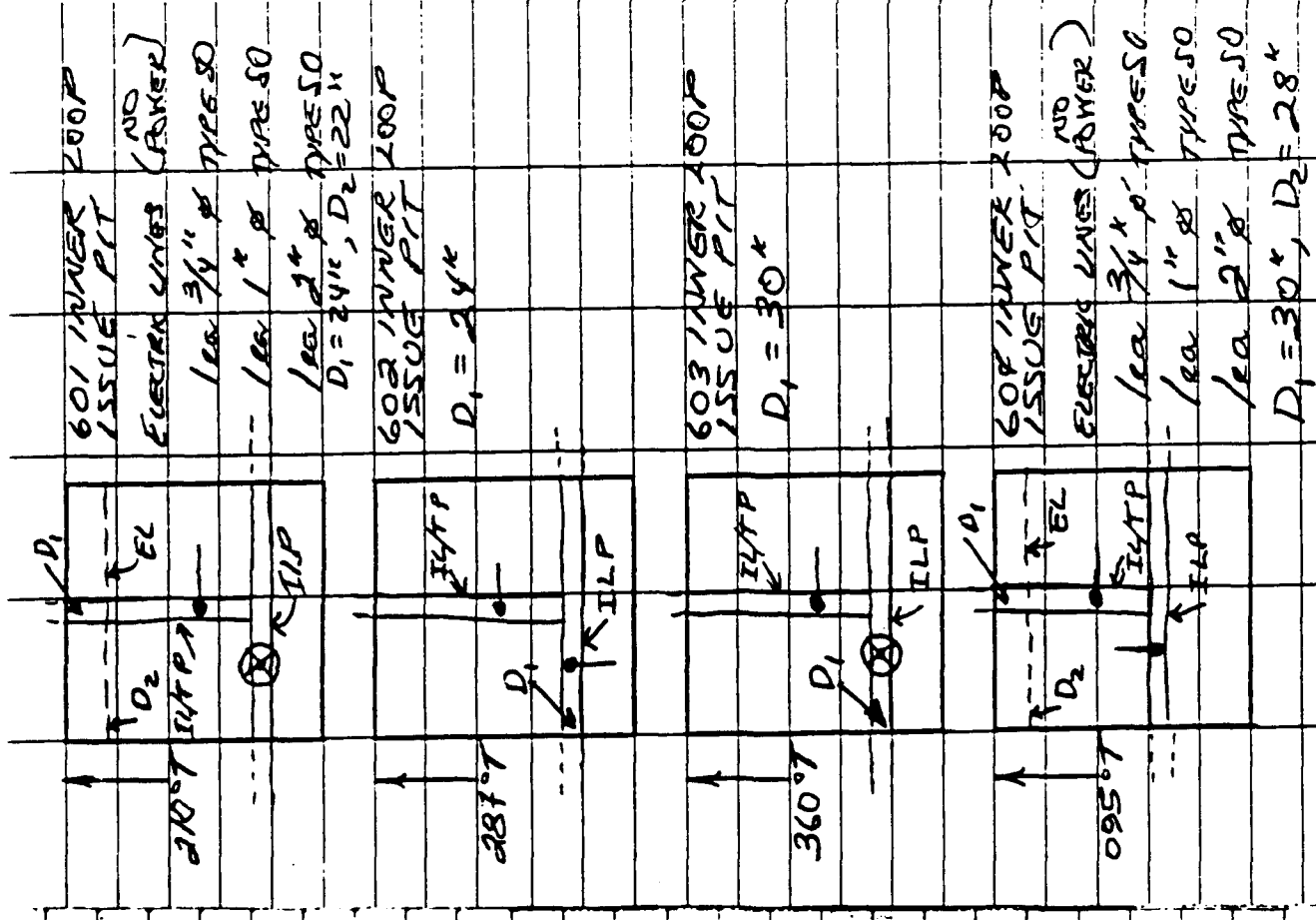
● = VALVE & HANDLE

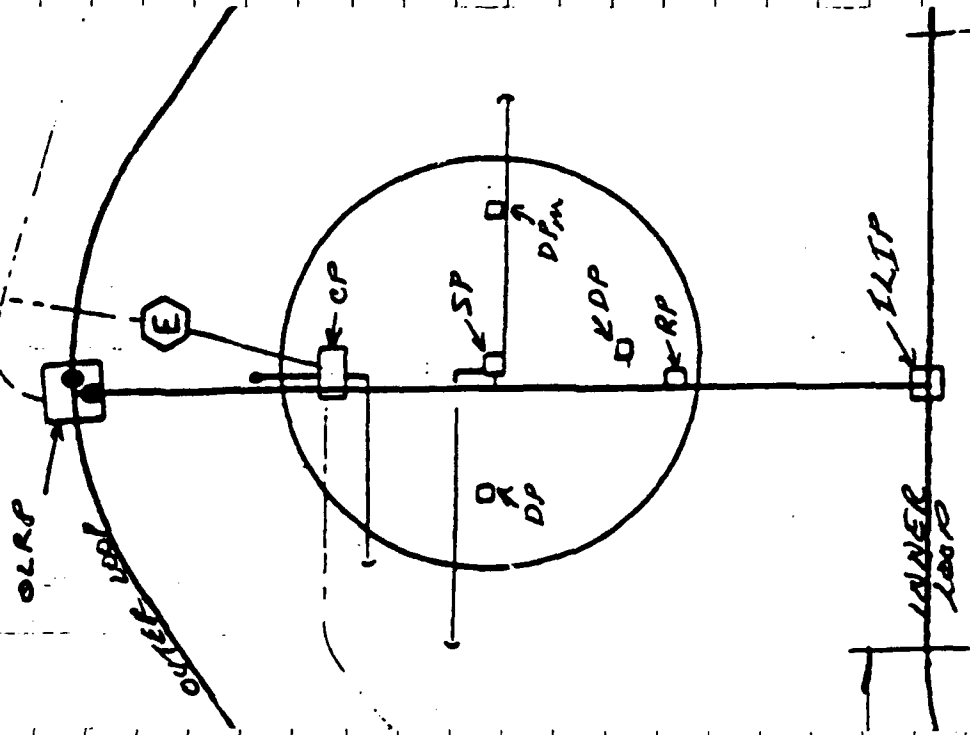
EL = OBSERVED ELEVATION

D_x = DEPTH TO TOP OF UTILITY

REFERENCE TO ADJACENT SURFACE

ELEVATION





TYPICAL ABOVE-GROUND
LAYOUT OF POL AREA
STORAGE TANKS (1 of 4)
TANK 603 IS SHOWN

CODING FOR DRAWING AT
LEFT AS FOLLOWS:
OLRP = OUTER LOOP RECEIVING PIT
ILIP = INNER LOOP ISSUE PIT
CP = CONTROL PIT
RP = RECEIVING PIT
SP = SUMP PIT
DP = DOME PIT
DPM = DOME PIT W/ METER

DEPTH TO TOP OF TANK
RELATIVE TO ADJACENT
GROUND SURFACE - MEASURED
IN OPPOSING DOME PIT
AT OUTER TANK EDGE LINE
OF PIT.

TANK	DP	DPM
601	58"	65"
602	59"	64"
603	63"	56"
604	52"	67"
NOTE: A 2" WIDE CRACK WAS OBSERVED ~ 1 FOOT		

ABOVE ELEVATION OF TOP
OF TANK INNER DOME PIT
(DP) 602. A REPAIR HAD
BEEN ATTEMPTED. CRACK
APPEARS TO BE THE RESULT
OF FROST HEAVE POSSIBLY
PARALLING THE CONCRETE
PIT BOX AT A LEVEL OF
PRESUMED WEAKNESS

1700 DEPART FOR OFFICE
TO COMPLETE SITE
DOCUMENTATION

1800 COMPLETE TASK FOR
TODAY

29 JUNE 1988 Wednesday

0600 ARRIVE OFFICE

MORNING WEATHER

TEMP - 51°F RH - 80%

BARO - 29.86 DP - 46"

WINDS SKTS FROM 160°

COVER - 5000 FT, 8000 FT, 12000 FT

GENERALLY OVERCAST, MISTY

0900 ON SITE SP-5, LOCATED

AND MARKED HU 480

ELECTRIC LINES CURRENTLY

IN SERVICE - RAINING

FROM CONTROL ROOM

TO EXHAUST TANKS CONTROL

PIT AND FUMPS PT. LINES

ARE 440 VAC 3 Ø AND

REPORTED TO BE STATION

BURIED, UNTESTED

TYPE SO CABLE MARKED

IN COOPERATION WITH

MR. HAIN OF USAF/FAES

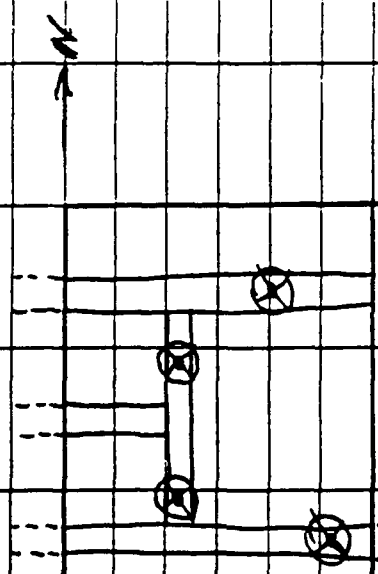
INTERNAL ELECTRICAL GROUP.

MR. HAIN LOCATED AND

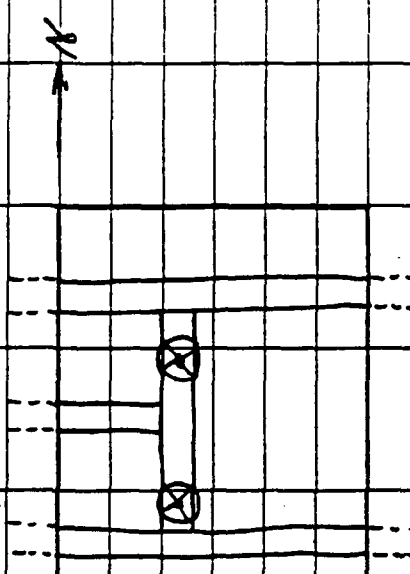
MATCHED CON VOCTAGE
 (12VDC - IN RAMP CONDUIT)
 CONTRAC WIRING. HE WAS
 RESPONSIBLE FOR THE
 INSTALLATION OF THIS
 SYSTEM SEVERAL YEARS
 AGO. DERIVED THE
 ABANDONED 540 WIRING
 RUNNING AROUND OUTRIG
 COOP, DIAGNOSTICALLY
 SHOWN IN USAF DRAWING
 #62E022 DATED 2/19/62.
 DERIVED COVER
 PIPES RUNNING FROM
 OCEAN DOCK - SOUTH OF
 POC AREA - FROM
 VICINITY VP-14 & 15,

1700 DETAILS FOR OFFICE
 TO COMPLETE SITE
 DOCUMENTATION

1800 COMPLETE TASK FOR
 TODAY



VP-14



VP-15

30 June 1988 Thursday

0500 ARRIVE OFFICE

MORNING WEATHER

TEMP - 53°F RH - 65%

BARO - 29.79" DP - 81°

WINDS 7 kts from 160°

COVER 4000 SFT, 8000 BKN, 12000 BKN

GENERALLY OVERCAST

SITE DOCUMENTATION ON

SP-5

0900 ON SITE SP-5, COMPLETE

ON SITE DOCUMENTATION

AND FIELD CHECK OF ALL

UTILITIES MARKING.

DESIGNATE FOUNDATIONS

OF 4' FOL STORAGE

TANKS TO ALLOW FOR

SAS PROBES TO BE

INSTALLED ADJACENT

TO TANKS AS REQUIRED

UTILIZED THE FOLLOWING

GEOPHYSICAL EQUIPMENT

1) GEONICS EM-31 TERRAIN

TANK SLUDGE BUREAL AREA ELECTROMAGNETIC SUEBUT (PERFORMANCE CENTER)

LOC VALUE (1)	LOC VALUE (2)	LOC VALUE (3)
6 1/2	20	11 (11) (11)
11	19	9 1/2
7	10	6
4 1/2	11	5
4	12	6 1/2
5	13	6
6 1/2	15	9
9	14	8-10
3	16	9
4	12	7
	18	10

NOTES:

1. VALUES IN MM/H/M W/ GEONIS EM-31
 2. LOC = SOLE GAS PROBE LOCATION
 3. OPEN AREA OUT OF WORKS
 4. OUTER LOOP PIPELINE NEGATED DATA AT PROBE LOCATION.
- VALUE OBTAINED IS TO WEST
AWAY FROM NASTRICK INFLUENCE

CONDUCTIVITY METER

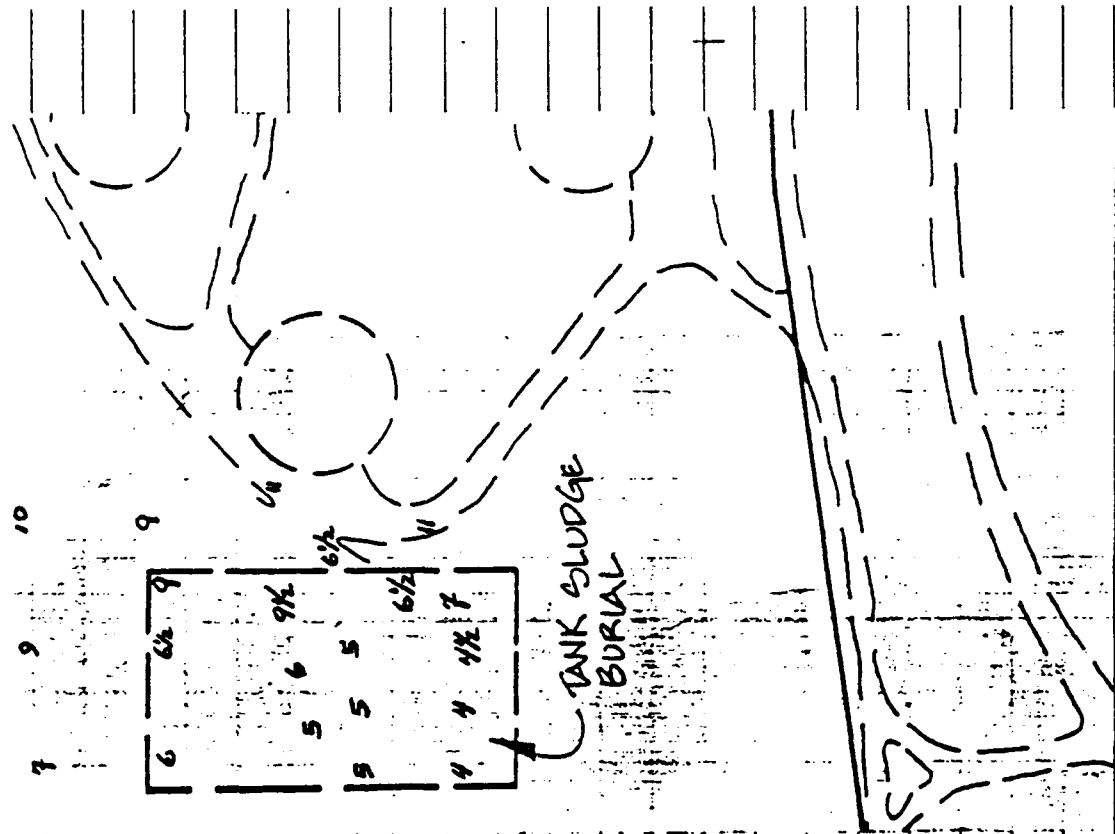
- 2) SENSOR TEST GA-52 B
SEARANT M96N8TOMETER
- 3) METER TEST M-480 PIPE
AND CABLE LOCATION.
CLEARER ADDITIONAL
ALTERNATE BEING LOCATIONS
AS DIRECTED BY SITE
SUPERVISOR. DEFINED
TANK AND UNDERGROUND
PIPES AT LOCATION OF
OIL/WATER SEPARATOR.
CONDUCTED CONDUCTIVITY
SURVEY OF REPORTED
SLUDGE DISPOSAL AREA
TO WEST OF FOL AREA
(SP-5 SITE). MEASUREMENTS
TAKEN IN ACCESSIBLE AREAS
AND NEARBY AT FOL GAS
PROBE COLOCATIONS (NEAR-
EVER POSITIVE). MOST
OF SITE AREA IS HEAVILY
OVERGROWN AND INTERFERED
WITH GEOPHYSICAL EQUIPMENT

1600 DEPART SP-5 FOR SITES
D-3 AND D-15 TO ESTABLISH
SITE AND CARRY OUT PLAN
OF ACTION.

1830 DEPART FOR OFFICE TO
COMPLETE SITE
DOCUMENTATION

1900 COMPLETE TASK FOR
TODAY.

NOTE: TANK SLUDGE
BURIAL AREA ELECTROMAGNETIC
SURVEY MEASUREMENTS
OBTAINED USING A GEONICS
EM-31 TERRAIN CONDUCTIVITY
METER IN THE HORIZONTAL
COPLANAR MODE. VALUES
ARE APPARENT GROUND
CONDUCTIVITY IN MILLIMHOES
PER METER



TANK SLUDGE BURIAL AREA
ELECTROMAGNETIC SURVEY

01 July 1988 Friday

0600 ARRIVE OFFICE
Morning weather
TEMP - 53°F RH - 82%
BARO - 29.57" DP - 49°
Winds - calm
COAST - 2500 SGT, SMOKE 8000 FT
GENERALLY OVERCAST
KORVEN PEARL, SEAS OF
WORK, AND APPROACH
BASED ON AVAILABLE SITE
RESEARCH INFO ON D-3 &
D-13 w/ R. Dusan.
REQUEST ACCESS TO RESEARCH
AND SECURITY AREAS FOR
SITES IS-1-28. NO APPROV
ACTION BY USAF. Most
RADAR SYSTEM.

1000 ON SITE D-3. SITE
CHARACTERIZATION AND
FIELD REVIEW OF INFO
OBTAINED DURING SITE
RESEARCH IN DATE

1300 ON SITE SP-1. FIELD
MOOR AND CHECKOUT
OF EARTH SYSTEM (SPR)
DOCUMENTS UNDERGROUND
UTICITIES AND LOOP
CANNON & OUTSIDE PIPING,
POC TRUNK BOUNDARIES,
ETC.

1830 DEPART FOR OFFICE
TO COMPLETE SITE
DOCUMENTATION

1900 COMPLETE TASK FOR
TODAY

TYPICAL RECORDS TO COME
SCALES: A = 10m/1 DIVISION
B = 1m/1 DIVISION

FEATURES:

- 1) 3/4" ELECTRIC CONDUIT
BURIED APPX 3 1/2'
- 2) 6" PIPING & PIPES
APPX 2.3'

(B)

(A)

A high-contrast, black and white image of a textured surface, possibly a wall or ceiling. The surface is covered in a dense pattern of dark, irregular shapes against a lighter background. In the center, there is a large, dark, curved shape that resembles a thick, curved line or a shadow. In the upper left corner, there is a smaller, dark, curved shape. The overall appearance is grainy and noisy, typical of a low-quality photocopy or a high-contrast scan of a textured surface.

(8)

5

[illegible]

05 July 1983 Tuesday

0600

ARRIVE OFFICE
MORNING WEATHER
TEMP 55°F RH 60%
BAR - 29.93 DP - 42°
WINDS 2 KTS FROM 230°
COVER 2500 FTN, 5000 OVCT
SENSITIVITY OUTREAST.
REVIEW PROGRESS TO DATE
ON SF-5

1000

PICK UP 80 MHz RADAR
ANTENNA AT AIRFIELD
TERMINAL, CHEROKEE
RADIO SYSTEM.

1100

ENROUTE SF-5, SUNDAY
THREE BORING WITH
RADAR, MAG. & EM.
THREE MOST DIFFICULT
CHOSEN (#1, #5, & #8)
WORKING ABOVE, SITE
ASSISTANT ASSIGNED
TO HELP WITH RADAR

REVIEW OF RECORD A ON
PREVIOUS PASS - PRIMARY
CHANNELS ARE ANTENNA
SPREAD OVER SCENE AND
GAIN & ATTEN, REDUCTION
FOR MAX RESOLUTION IN THE
UPPER 25 FEET OF SOIC

25 July 1982 Tuesday

0600 Arrive Office
 Morning weather
 Temp 55°F RH 60%
 Bar - 29.93 DP - 420
 Winds 2 kts from 230°
 Clouds overcast, 5000 OVC
 Beginning overcast
 Leveln progress to 20ft
 on SF-5

1000 Pick up 80 MHz Radar
 Antenna at Airport
 Terminal, overcast
 across street.

1100 Ensure SF-5. Survey
 three bearings with
 Radar, MAG. & ETL.
 Bore about 1000 ft (C)
 2100 ft (H, T, & H8)
 Bore 100 ft, 100 ft
 2100 ft, 100 ft
 2100 ft, 100 ft
 2100 ft, 100 ft

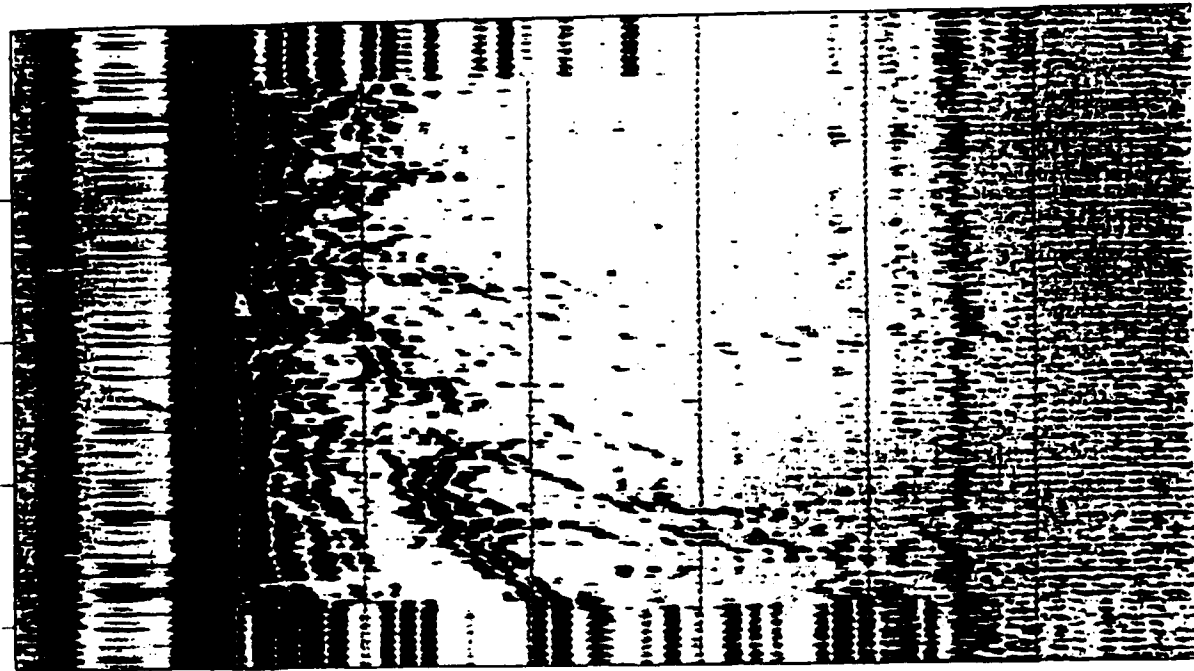
Person of interest in
 various areas - primary
 objectives are aviation
 safety, security and
 law enforcement, and the
 100 ft, 100 ft, 100 ft
 100 ft, 100 ft, 100 ft

SURVEY UNABLE TO
RETURN TO S.P.S. IN
THE AFTERNOON. INSTEAD
ASSIGNED TO FOIC GAS
TEAM.

2030 DEPARTED FOR OFFICE
TO COMPILE CORE SITE
DOCUMENTATION

2100 COMPLETED TASK FOR
TODAY.

TYPICAL RECORD TO LEFT,
PASSING LEFT TO RIGHT
FROM AREA BY TANK
COY - NOT ACROSS ROAD,
ONTO FLAT PARKING
AREA.
SPACE: 10 MS/DIVISION

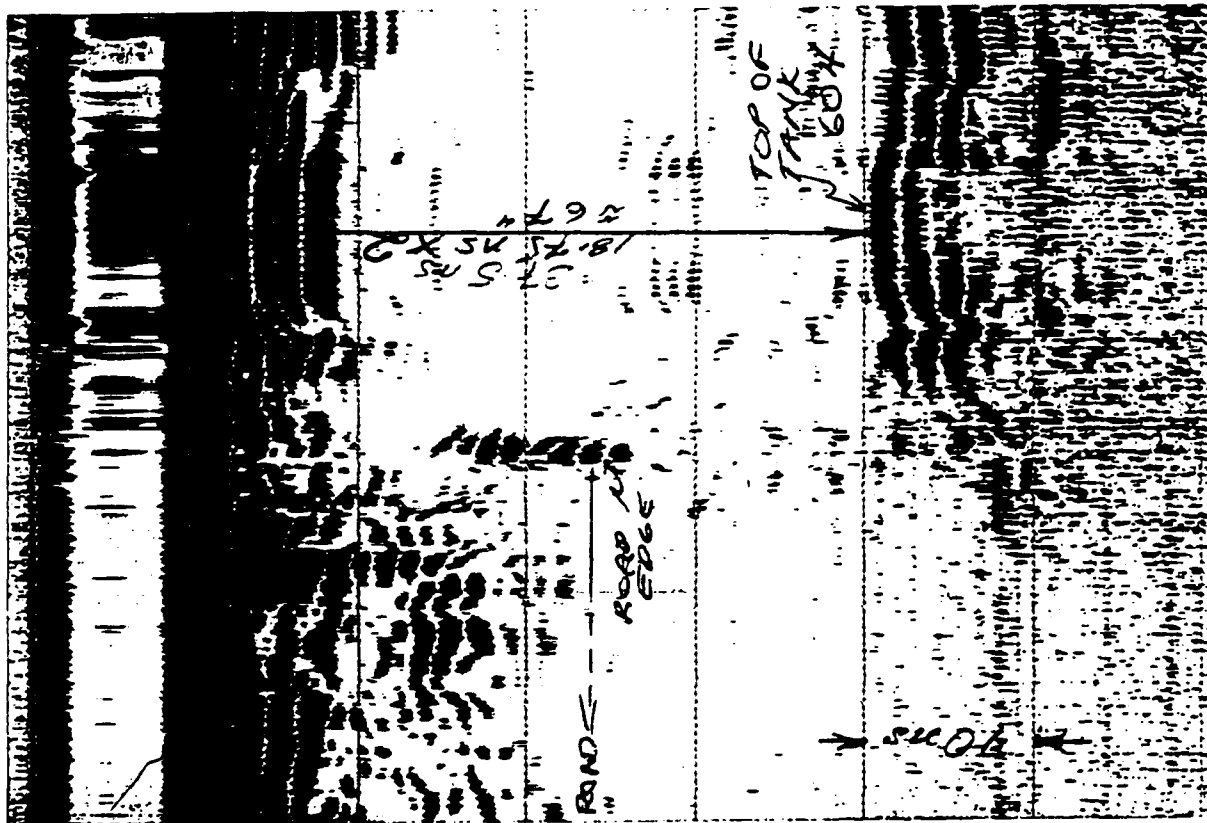


SURVEY UNABLE TO
REACH 2050'S IN
MOUNTAIN, MOUNTAIN
SIDE OF 2050'S
TRAIL

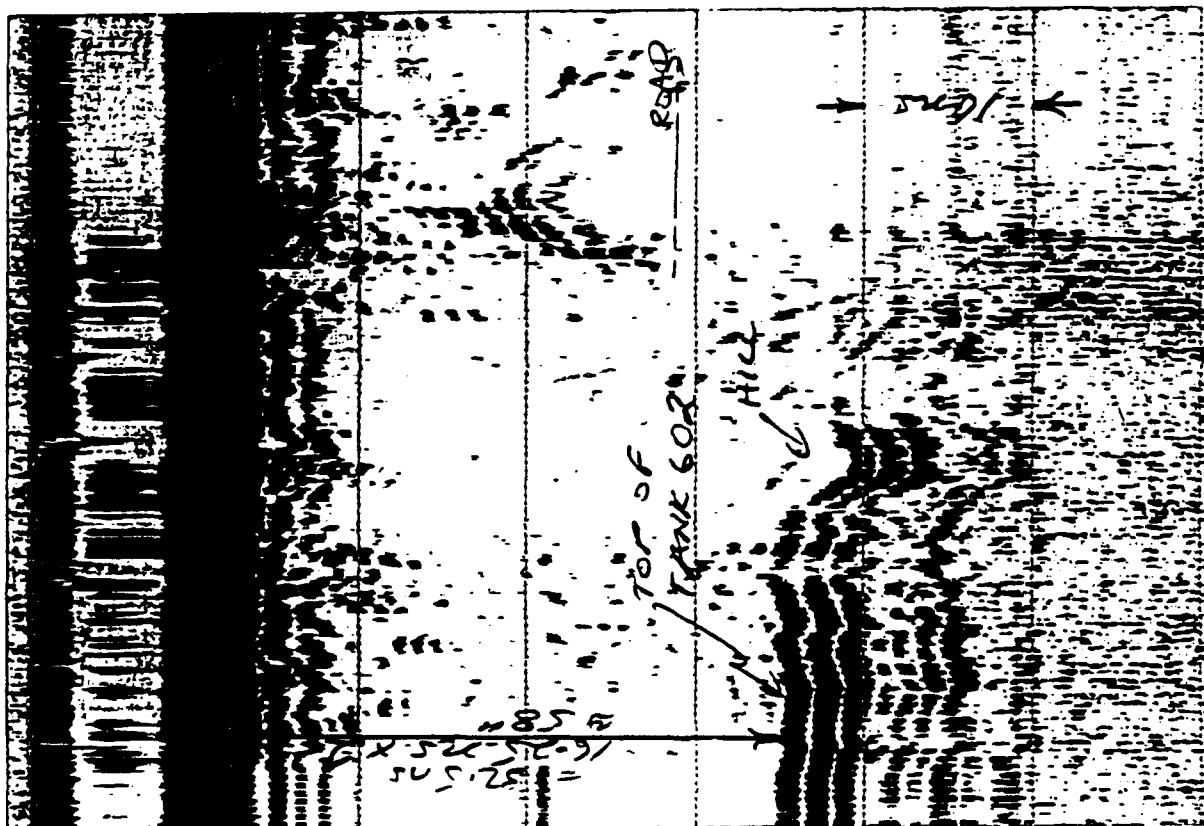
2050 DEPARTED FROM OFFICE
TO CONDUCT SITE
DOCUMENTATION

2100 CONDUCTED TASK FOR
TODAY.

TRAIL WAS NOT REACHED
FROM AREA BY TRAIL
CROSSING AT 1000 SWISS
CROSSING ROAD
ONTO TRAIL BATHING
AREA.
SCALES FOR DIVISION



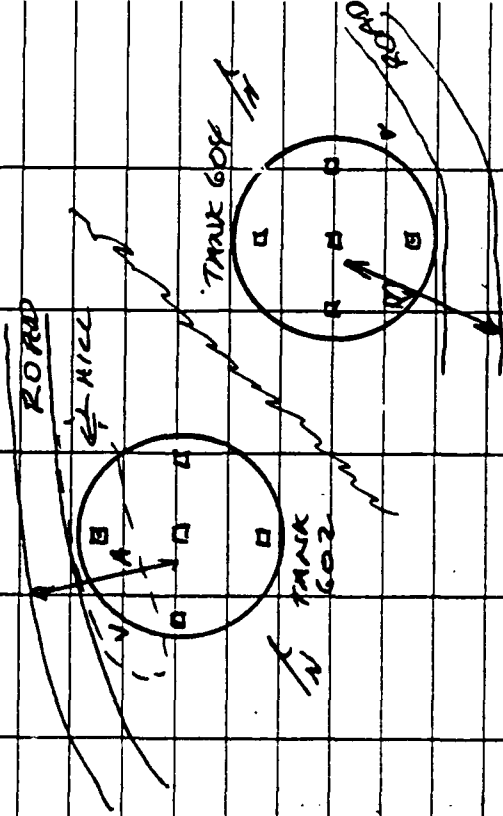
(R)



(A)

ROAD PROFILES A & B (PREVIOUS PAGES)

PROFILE LOCATIONS AS PER SKETCHET BELOW. VELOCITY BASED ON MEASURED DATA ON KNOWN OBJECTS IS APPROX 6.67 MS/FOOT TWO-WAY TIME (10 MS \approx 1 1/2')



NOTE: NAVIGATION FOR ALL BORING RECORDS. EVENT MARKS AT EOL, BORING LOCATION, AND EOL. UNLESS NOTED, ALL UNITS CONSIDERED OVER BORING LOCATION, AND ARE 100' LONG.

ROAD PROFILE - BORING LOCATION

NOTE: UNLESS OTHERWISE NOTED, THE FOLLOWING SPECIFICATIONS APPLY TO ALL RECORDS TO FOLLOW

INSTRUMENTATION

GPS SYSTEM - 3 ANTENNA - 500 MHz

PRINT POWER - 1

RECORD 100 CM/WCH
REPEAT 16 SCANS/SEC
FULL SCALE RANGE 50 MS

BORING 05

PROFILE 1 A \rightarrow A'

HEADING 110° T

PROFILE 2 A' \rightarrow A

HEADING 290° T

PROFILE 3 B \rightarrow B'

HEADING 200° T, POINTS

6' AREA OF BORING LOC.
ROAD BEING 15' SOUTH OF
BORING LOCATION. BALANCE OF
LINE TO B' ON PACED
ROAD. POINT B IS UP HANDY
TRUSS/BENCH.

PROFILE 4 - REPEAT OF 3

BASED ON PROFILES 3 & 4
AND GRADIENT WAS 10%
RATHER BORING LOCATION WAS
MOVED 3' SOUTHEAST.
INTERFACED PATTERN ENHANCED
BY PRESENCE OF COARSE SAND.

PROFILE 5 C → C'
HEADING 200° T LINE
LENGTH 20' CENTERED
OVER NEW BORING
LOCATION.

PROFILE 6 REPEAT OF 5

BORING 08

BORING LOCATED TO NORTH
OF P.O. AREA TO SOUTH
OF ACCESS ROAD IN COARSE
SAND TO SOUTH OF HANDY
TRUSS/BENCH. APPROX
TO 85' FILL OVER NATURAL
SAND. FOR SAFETY AREA
20' SOUTH TACKLE IN
SLOPE (DOWN) APPROX 30'
SOUTH WEST - WEST

PROFILE 1 A' → A

HEADING 270° T

PROFILE 2 A' → A'

HEADING 090° T

PROFILE 3 A' → A

HEADING 270° T

SOUTH TO NORTH PROFILES
BEING APPROX 20' SOUTH
OF BORING LOCATION,
WITH A TIEK IN SLOPE

Boeing #4

Profile 1 A' → A

Heading 270° T

Profile 2 A → A'

Heading 090° T

Profile 3 B' → B

Heading 360° T

Profile 4 B → B'

Heading 180° T

Inner loop pipelines at
45' N of borehole location.

Boeing #3

Profile 1 A' → A

Heading 225° T line

begin 45' south of

center of propane tank

last 10' of line - small

ball on north, veered

south of line to stay

Away from nozzle, diver
top of tank 602

Profile 2 A → A'

Heading 045° T

Profile 3 B' → B

Heading 135° T

center of tank area at

315 (480 x 384 HV) and

265 (1200 x 1200) N. corner

Road is between 25' N

and 48' N

Profile 4 B → B'

Heading 315° T

Outer loop pipelines at

area 8-10' north of

Road edge - not cleared

Boeing #9

Profile 1 A' → A

Heading 270° T

Profile 2 A → A'

Heading 090° T

Profile 3 B → B'
Heading 180° T
Profile 4 B' → B
Heading 360° T

Borehole #2

Profile 1 A → A'
Heading 090° T
Profile 2 A' → A
Heading 270° T
Profile 3 B → B'
Heading 180° T
Profile 4 B' → B
Heading 360° T

Borehole #6

Profile 1 A → A'
Heading 090° T
Profile 2 A' → A
Heading 270° T

Profile 5 B' → B
Heading 360° T
Profile 6 B → B'
Heading 180° T
Road from 245' to
end of line B

Borehole #7

East-West line Joss
at Borehole location to
just 60' outer loop
receiving pit. line
bearings are 270°
and 070° from location

Profile 1 A' → A
Heading 250°/270° T
Note 60' issue line
at 30' east.
Profile 2 A → A'
Reverse of Profile 1

PROFILE 3 B-P
 BEARING 180° T-AND
 BEING AT 70' N, FIRST
 MARK AT 50' N, FIRST
 LAST MARK AS POINT #3
 10' DOWN BRICKS (N10
 TO 15' SURFACE OF BORING)
 PROFILE 4 B-P
 REPORT OF #3

NOTE: ANNOTATION FOR ALL
 BORING RECORDS. EVENT MARK
 AT 50', BORING LOCATION
 AND 50', UNLESS NOTED,
 ALL UNITS CORRECTED OVER
 BORING, AND ARE 100' UNITS
 ($\pm 50'$ NAD, $\pm 50'$ GATN)

TANK SURVEILLANCE AREA
 LATER PROFILES

PROFILE 1 - BORING BY
 EDGE OF ROAD AT 60.2
 OUTER LOOP BEARING
 PIT AND CROSSING OUTER
 LOOP RISES. MARK
 AT EDGE OF PUSHER
 ENTERING WOODS, AT
 56 PEAR 9 AND 55
 PEAR 3, TO EOL.

PROFILE 1A - RETURN
 REPORT OF ABOVE

PROFILE 2 - BEING AT
 EDGE OF ROAD (MARK) W/
 MARKS ALSO AT EDGE
 OF WOODS, AT 50.1 BEING
 LOCATION, AND 55 PEAR
 2, TO EOL

PROFILE 2A - RETURN
 REPORT OF ABOVE

Profile 3 - Begins next
to 602 beginning pit,
mark at road edge,
cross over car pile,
mark at road edge,
mark at 55 phase
19, extend to EOL -
within 35' of 55 phase
13.

Profile 3A - between
begin of Aerve

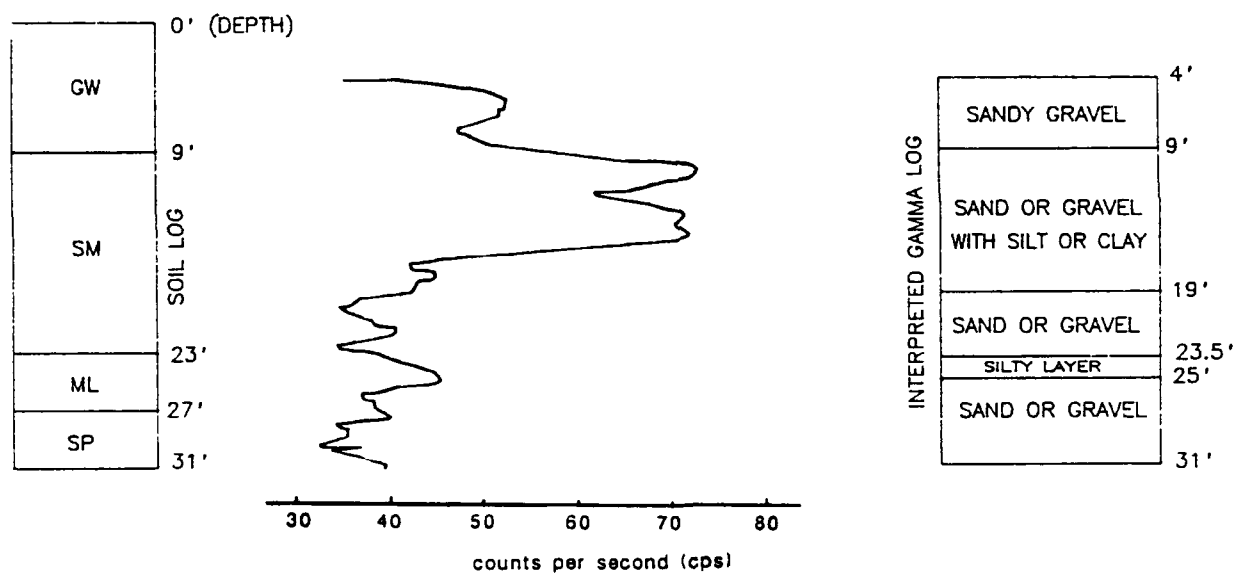
27 July 1988 Thursday

0500 Arrive office
Morning warmer
Temp - 50°F RH = 60%
SARCO - 50.09 DP = 12.
Winds calm
Cover 5000 BKN, 8000 OVC
Ceiling rain to forecast

0900 Onsite 5105 - Campsite
All work on 7145
Site - Final records
check and finish
Additional measurements
check w/ drill crew
and site supervisor

Gamma-Ray Logs

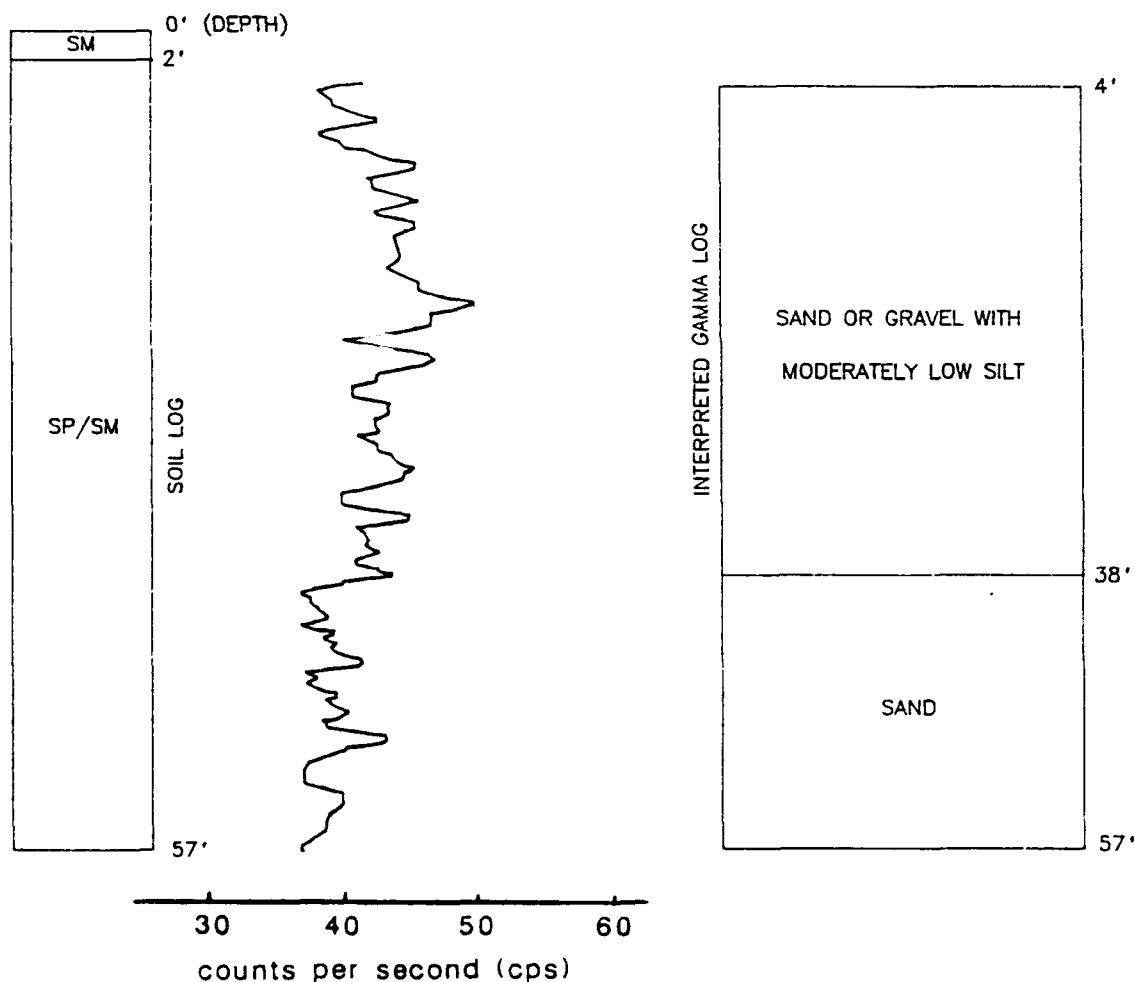
Client: Black & Veatch
 Site number: D-3 Well number: 02 Sample number: 002
 Well location: Elmendorf Air Force Base. Alaska
 Refer to PLATE 5-1, page 5-35 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 15 August 1988 Begin: 1612 hrs
 Run: four
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 9.8 metres Reported depth: 31' (9.4 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Clear, ca. 70° F., slight breeze



NATURAL GAMMA LOG
 SITE D3-02



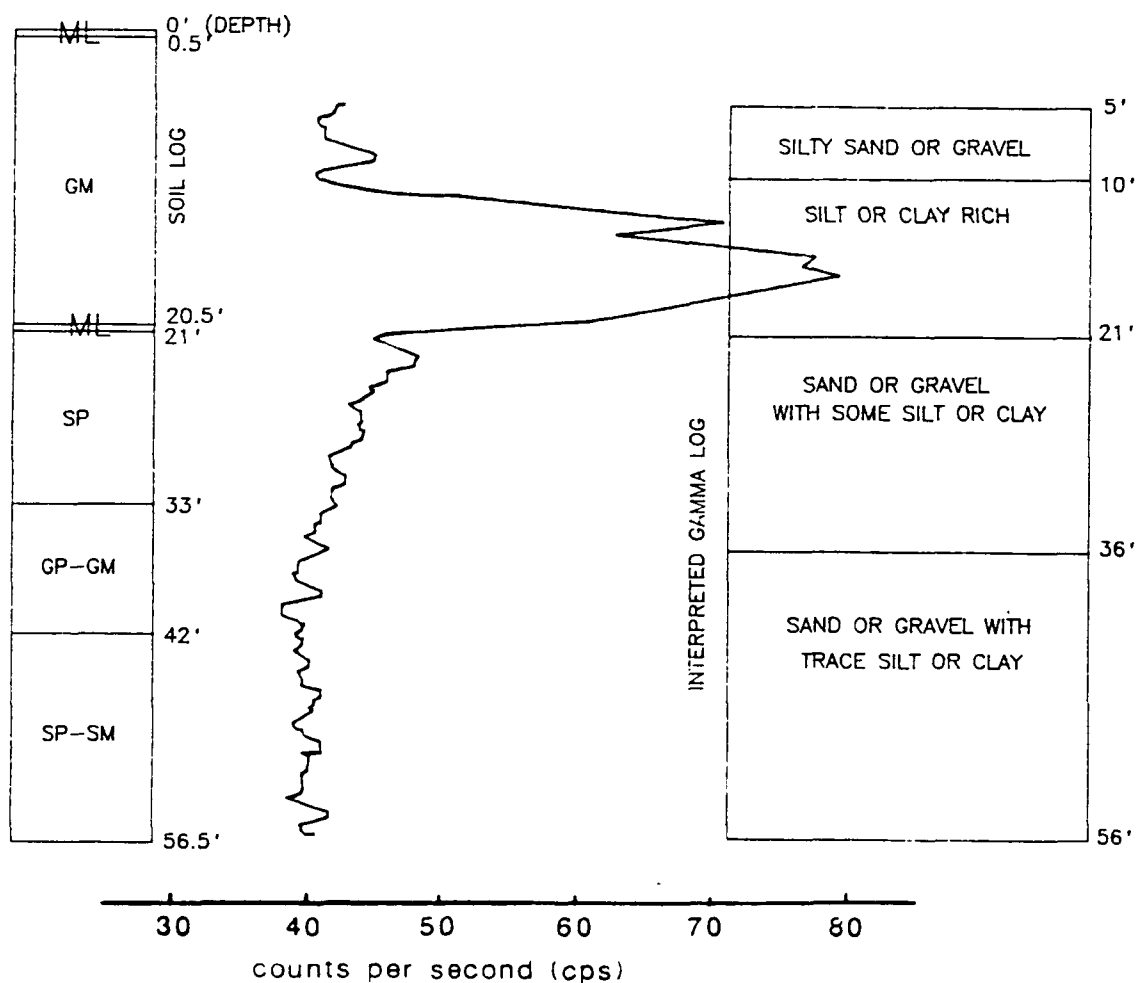
Client: Black & Veatch
 Site number: D-5 Well number: W-1 Sample number: 005
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-2, page 5-38 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 1355 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, level
 Total depth: 17.9 metres Reported depth: not available
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



NATURAL GAMMA LOG
 SITE D5-W1



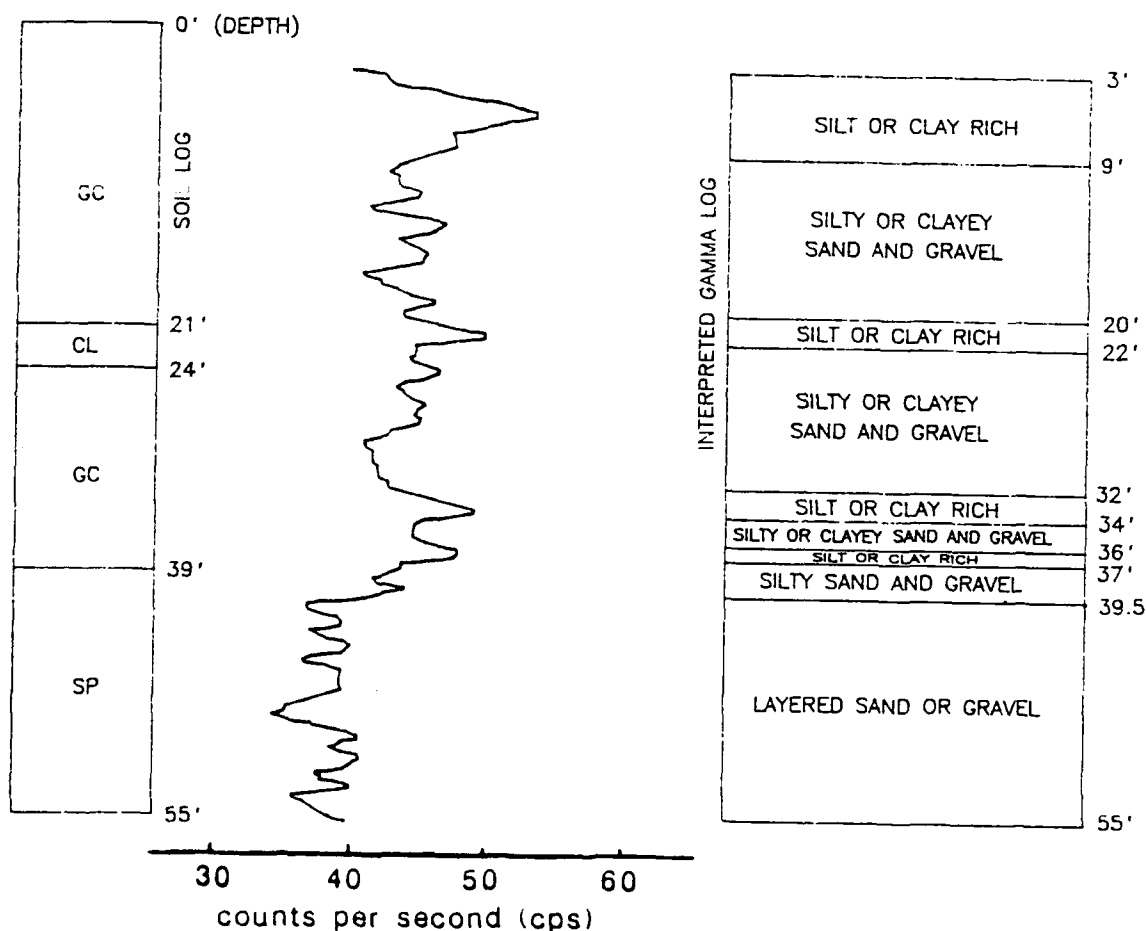
Client: Black & Veatch
 Site number: D-7 Well number: W5 Sample number: 010
 Well location: Elmendorf Air Force Base, Alaska
 Not Listed (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 1515 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 17.1 metres Reported depth: not available
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 10 CPS/div., 0 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



NATURAL GAMMA LOG
 SITE D7-W5

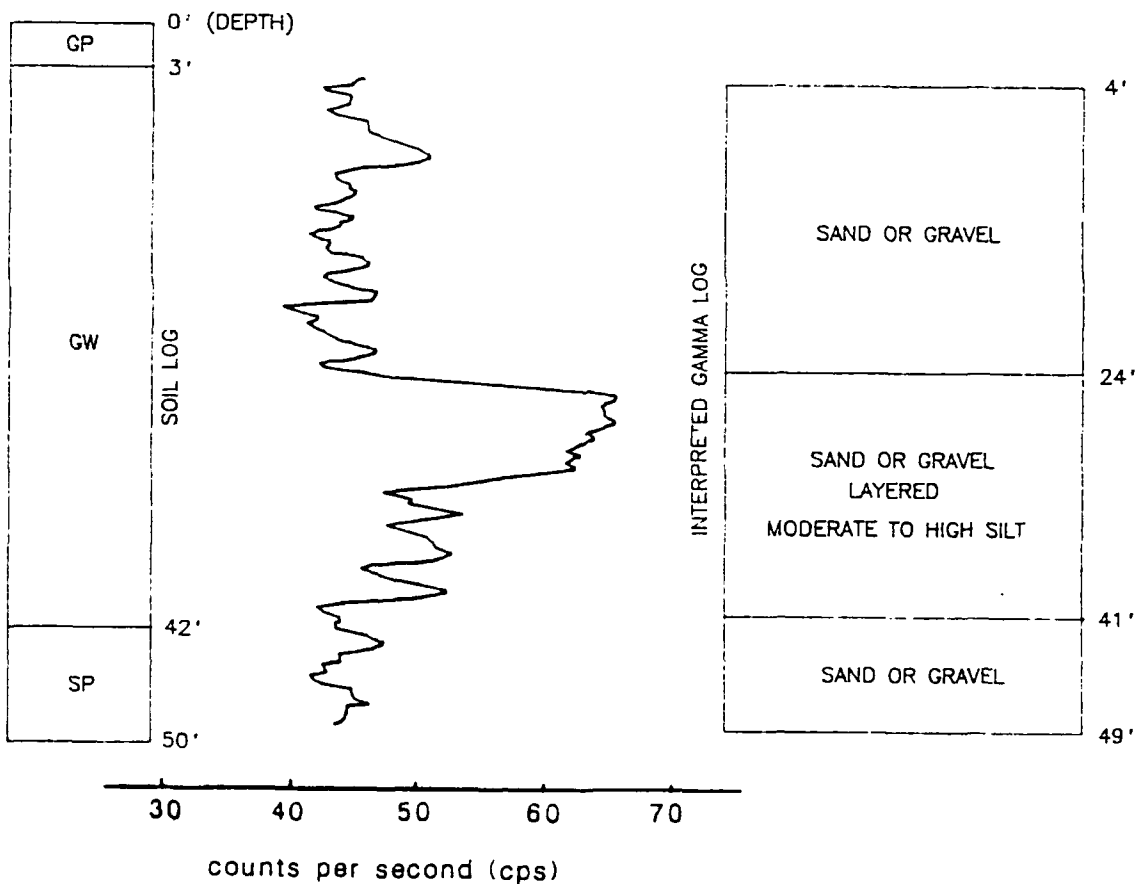


Client: Black & Veatch
 Site number: D-13 Well number: 01 Sample number: 015
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-3, page 5-42 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 0915 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 17.3 metres Reported depth: 55' (16.7 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Partly clear, ca. 60° F.



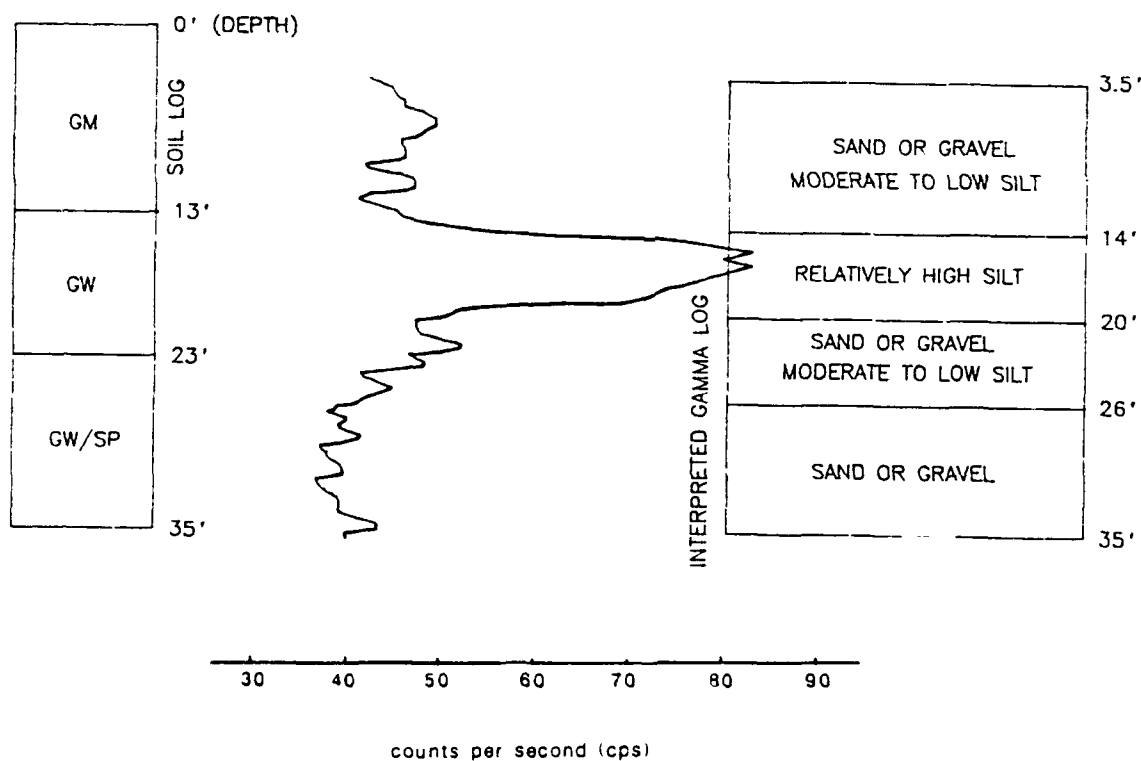
NATURAL GAMMA LOG
 SITE D13-01

Client: Black & Veatch
 Site number: IS-3 Well number: Sample number: 035
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-7, page 5-53 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 16 August 1988 Begin: 1140 hrs
 Run: two
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, north northeast side
 Total depth: 13.6 metres Reported depth: 50' (15.2 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Clear, ca. 65° F., slight breeze



NATURAL GAMMA LOG
SITE IS-3

Client: Black & Veatch
 Site number: IS-8 Well number: Sample number: 040
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-9, page 5-55 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 16 August 1988 Begin: 1645 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, south side
 Total depth: 11.4 metres Reported depth: 35' (10.6 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Partly Sunny, ca. 60° F.

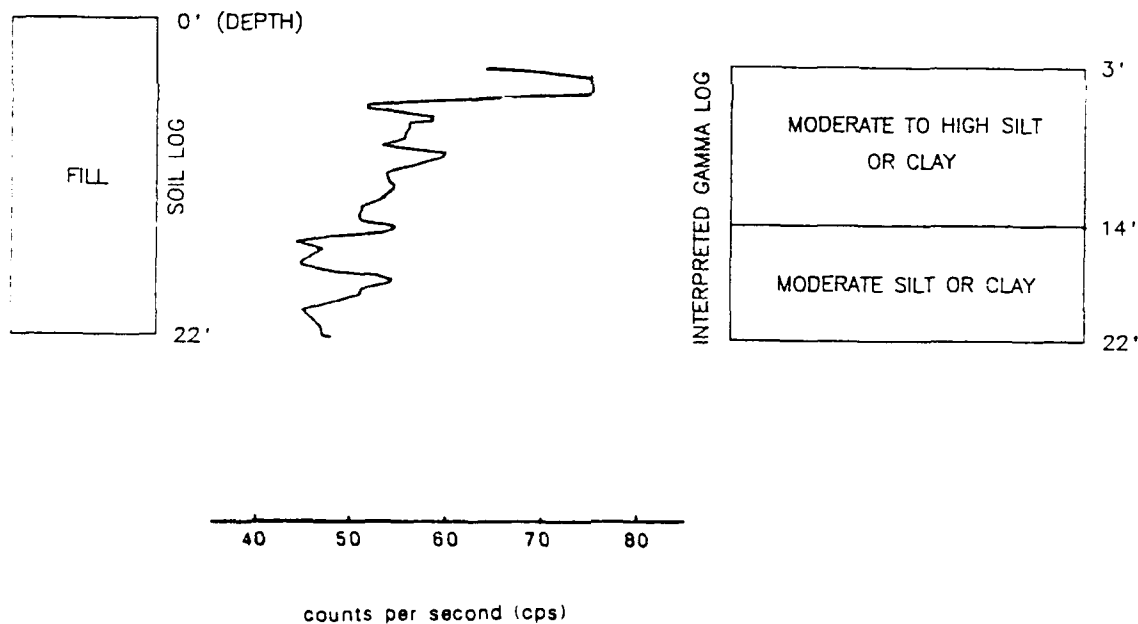


NATURAL GAMMA LOG SITE IS-8

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Figure

Client: Black & Veatch
 Site number: SP-1 Well number: 01 Sample number: 049
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-10, page 5-60 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 1800 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, north side
 Total depth: 7.1 metres Reported depth: 20' (6.1 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



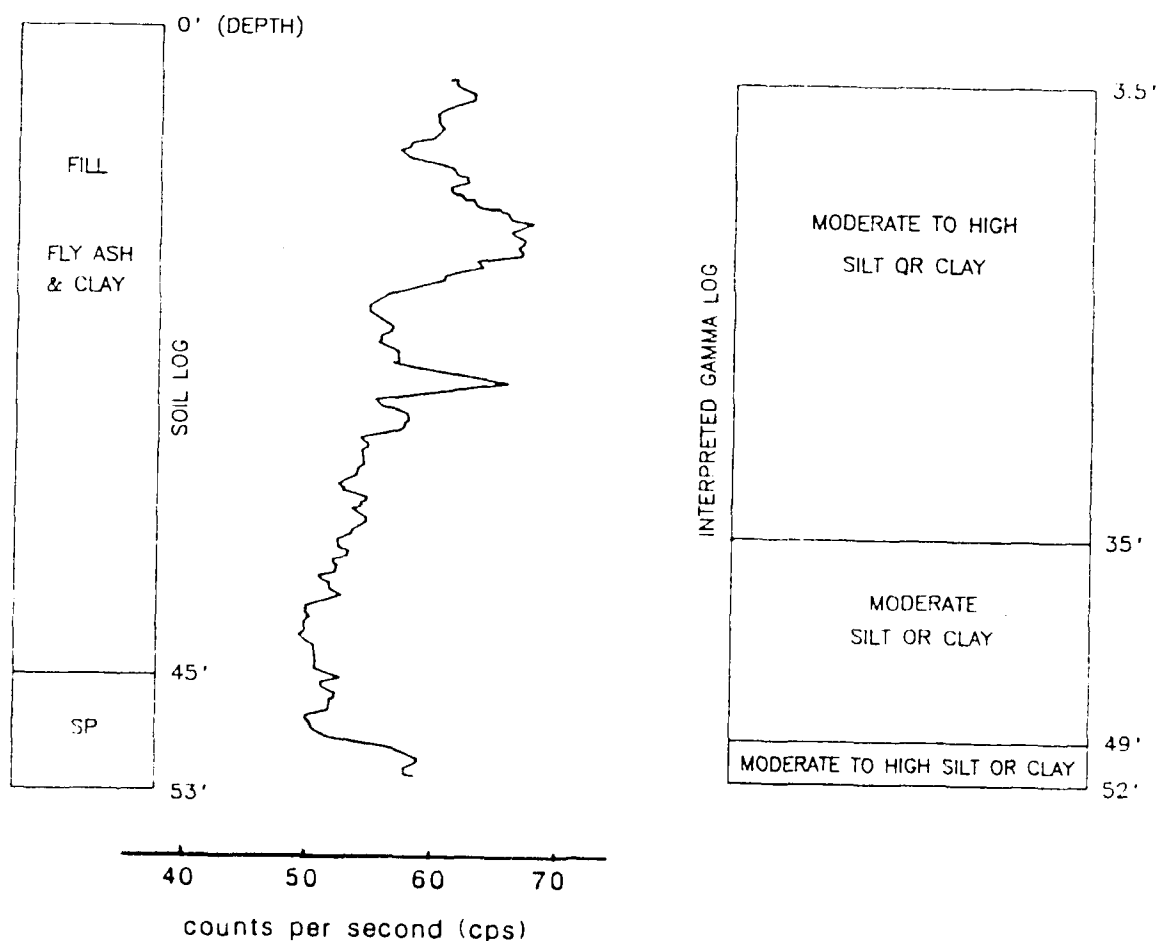
NATURAL GAMMA LOG
 SITE SP1-01

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Figure

Client: Black & Veatch
 Site number: SP-2/SP-6 Well number: 04 Sample number: 054
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-11, page 5-62 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 17 August 1988 Begin: 1530 hrs
 Run: three
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 16.3 metres Reported depth: 53.0' (16.1 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 10 CPS/div., no offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



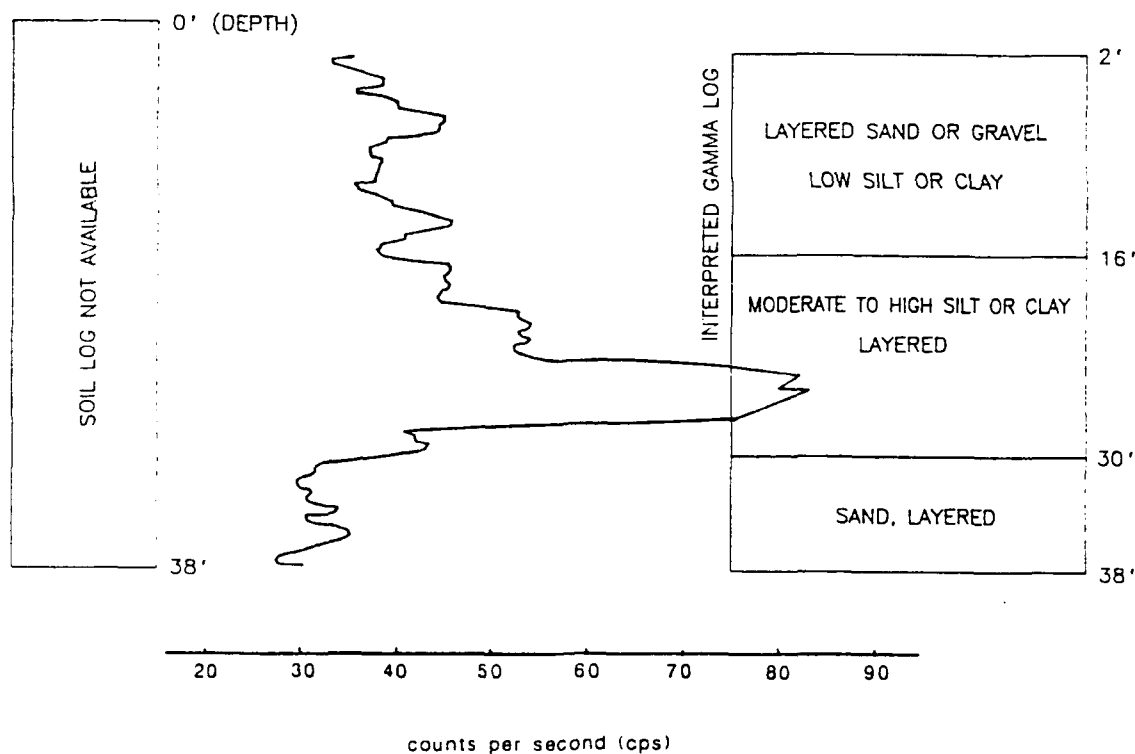
NATURAL GAMMA LOG
 SITE SP2/6-04

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Figure

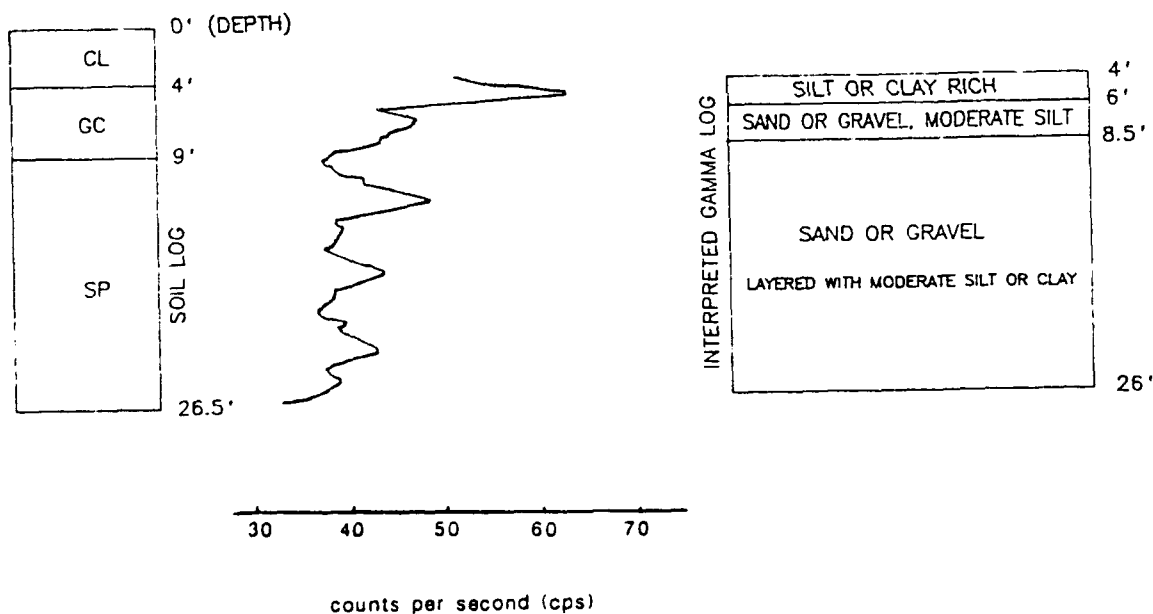
Client: Black & Veatch
 Site number: SP-2/SP-6 Well number: GW-6 Sample number:
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-11, page 5-62 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 1625 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, northeast side
 Total depth: 11.9 metres Reported depth: not available
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



NATURAL GAMMA LOG
 SITE SP2/6-GW6



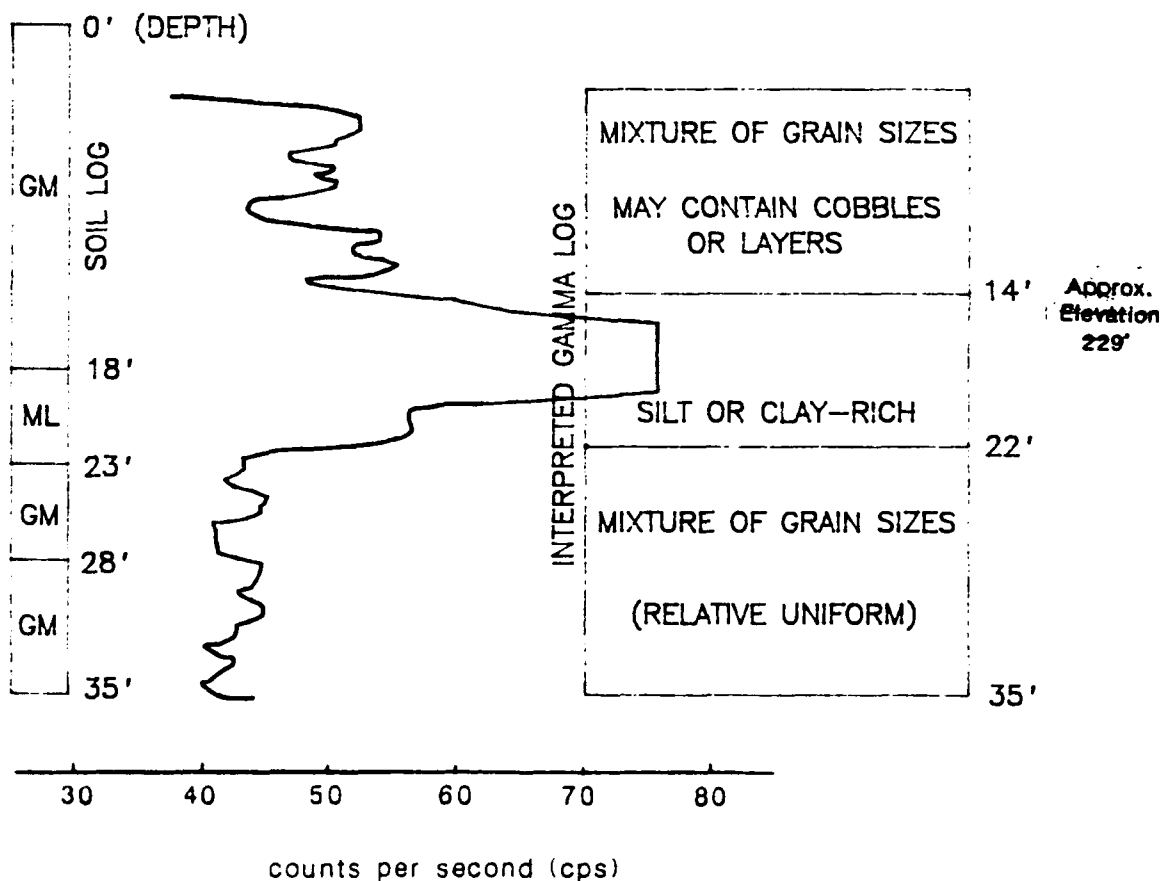
Client: Black & Veatch
 Site number: SP-4 Well number: 01 Sample number: 063
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-12, page 5-86 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 17 August 1988 Begin: 1125 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, south side
 Total depth: 8.4 metres Reported depth: 26.5' (8.4 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



NATURAL GAMMA LOG
 SITE SP4-01



Client: Black & Veatch
 Site number: SP-5 Well number: 02 Sample number: 073
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-14, page 5-72 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 16 August 1988 Begin: 1530 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 9.6 metres Reported depth: 36.5' (11 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Partly cloudy, sunny, ca. 70° F., slight breeze



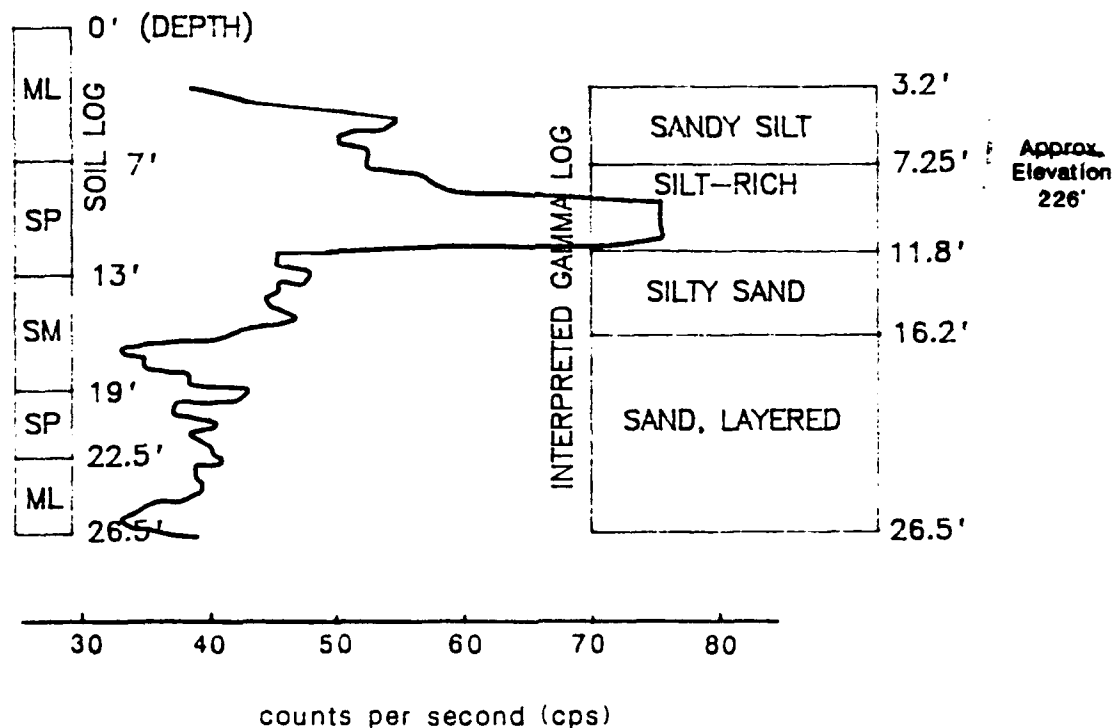
NATURAL GAMMA LOG
SITE SP5-02

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Figure

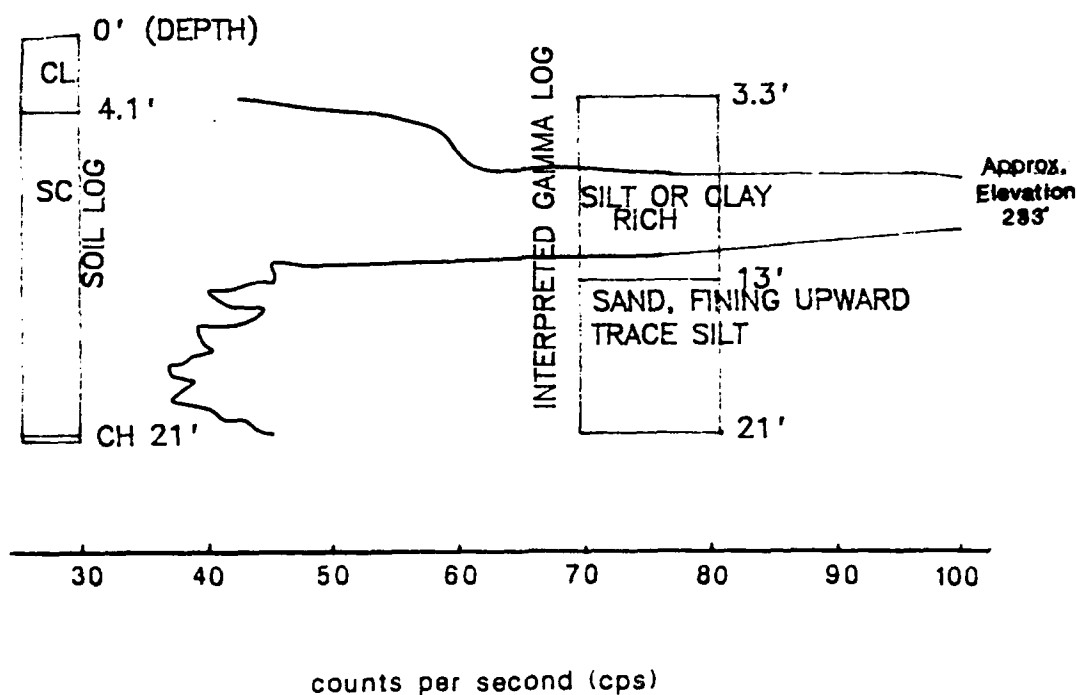
Client: Black & Veatch
 Site number: SP-5 Well number: 08 Sample number: 079
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-14, page 5-72 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 16 August 1988 Begin: 1426 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 8.5 metres Reported depth: 26.5' (8 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Partly cloudy, sunny, ca. 70° F., slight breeze



NATURAL GAMMA LOG
 SITE SP5-08



Client: Black & Veatch
 Site number: SP-5A Well number: 15 Sample number: 067
 Well location: Elmendorf Air Force Base, Alaska
 Not Listed (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 19 August 1988 Begin: 1505 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, north side
 Total depth: 6.8 metres Reported depth: 21.5' (6.5m)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 65° F.



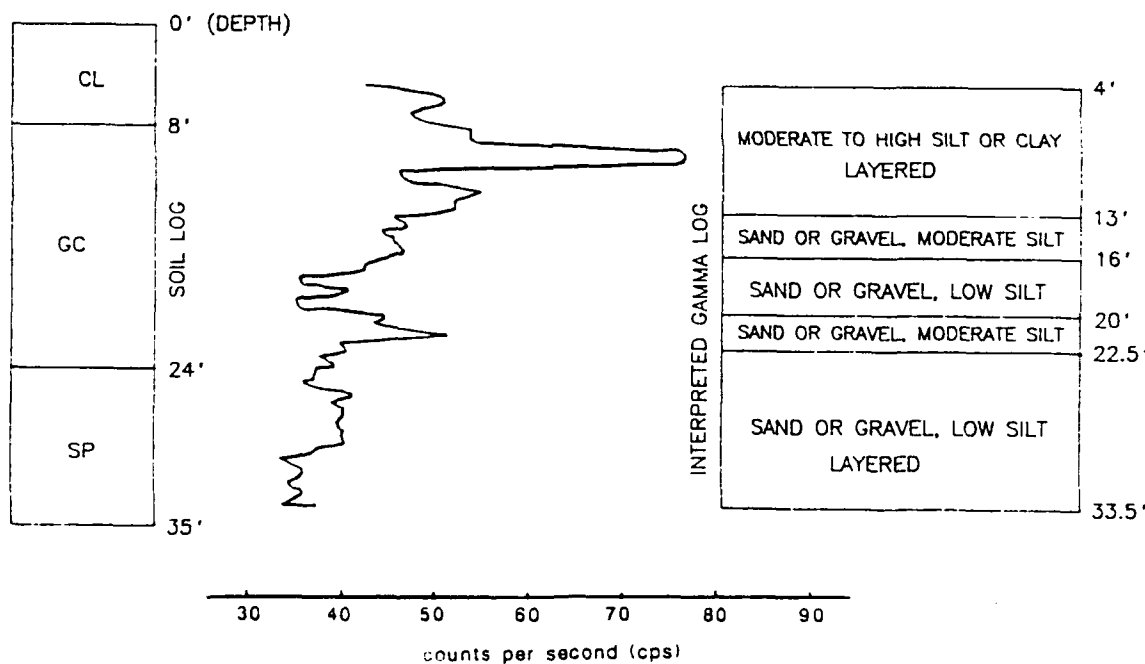
NATURAL GAMMA LOG
 SITE SP5A-15

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Figure

Client: Black & Veatch
 Site number: SP-7/SP-10 Well number: 01 Sample number: 084
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-15, page 5-76 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 16 August 1988 Begin: 0957 hrs
 Run: two
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, northeast side
 Total depth: 10.6 metres Reported depth: 35' (11.8 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Clear, calm, ca. 60° F.



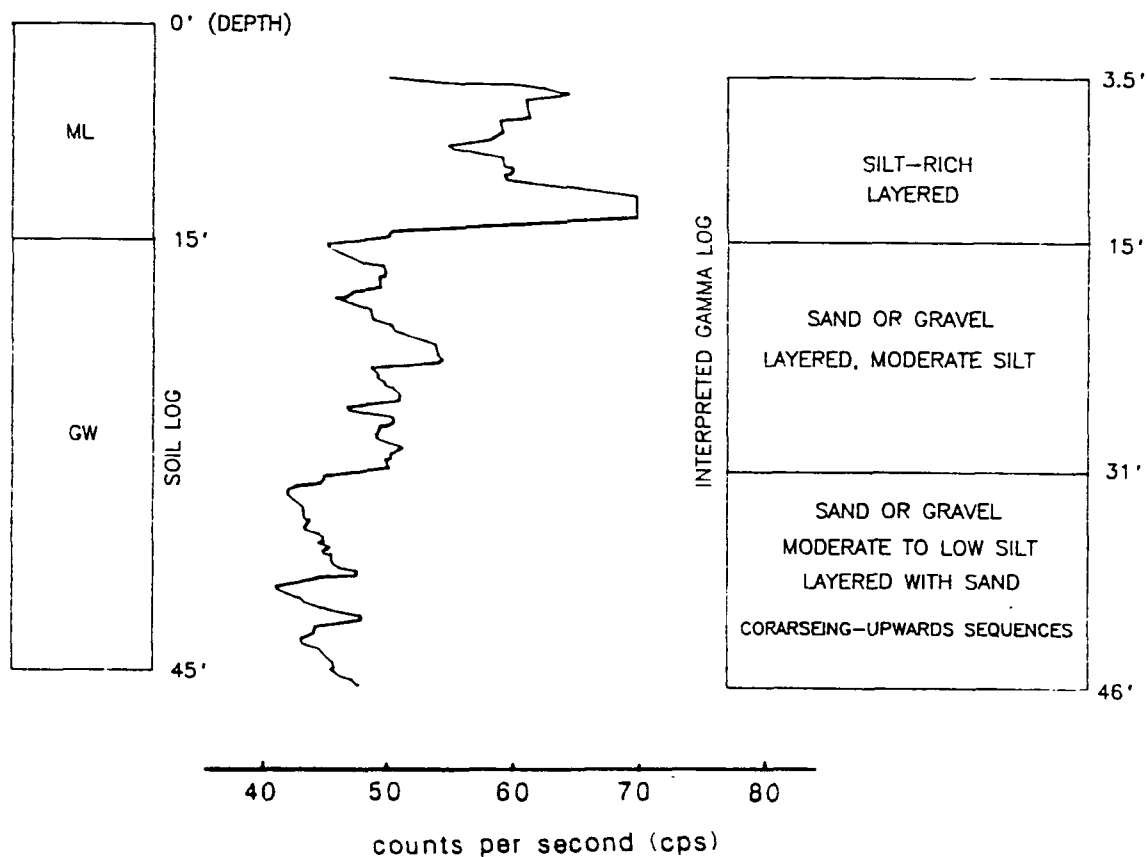
NATURAL GAMMA LOG
 SITE SP7/10-01

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Figure

Client: Black & Veatch
 Site number: SP-14 Well number: 02 Sample number: 097
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-9, page 5-55 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 17 August 1988 Begin: 1640 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, west side
 Total depth: 14.3 metres Reported depth: 45' (13.6 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.

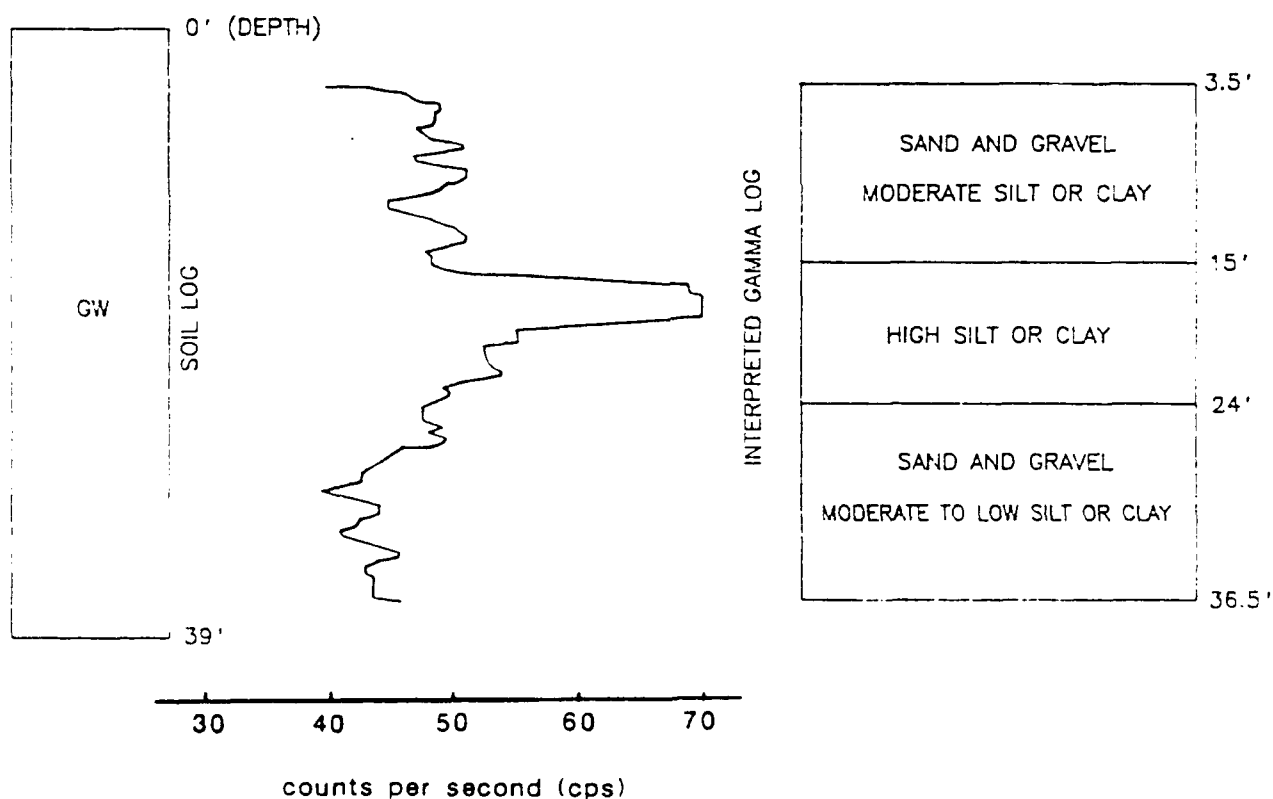


NATURAL GAMMA LOG
SITE SP14-02



Client: Black & Veatch
 Site number: SP-15 Well number: 01 Sample number: 100
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-17, page 5-84 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 1055 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 11.4 metres Reported depth: 39' (11.8 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Partly sunny, ca. 60° F.

INTERPRETED GAMMA LOG OF SP-15-01

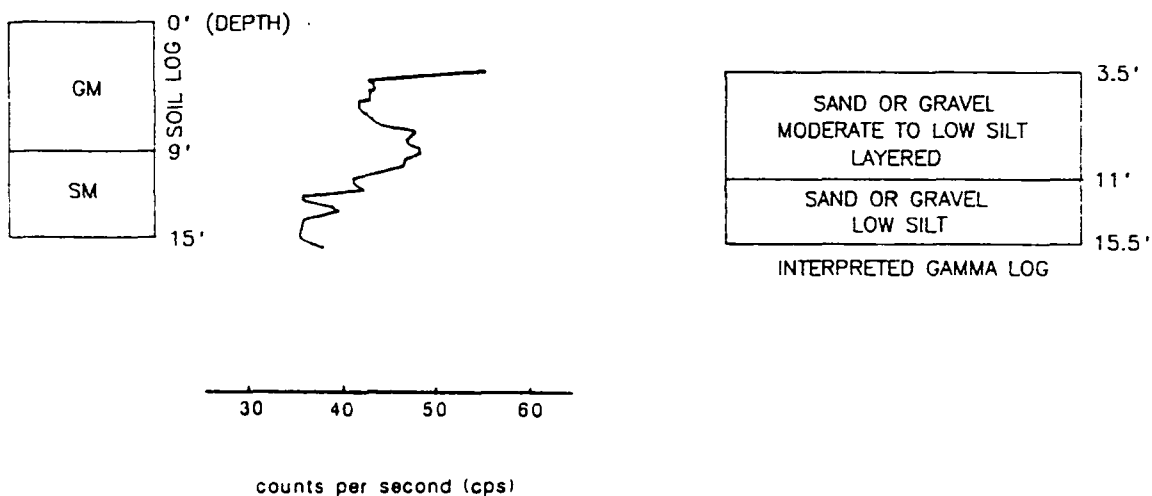


NATURAL GAMMA LOG
SITE SP15-01

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Figure

Client: Black & Veatch
 Site number: NS-3 Well number: 03 Sample number: 110
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-20, page 5-96 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 17 August 1988 Begin: 1345 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, south side
 Total depth: 5.2 metres Reported depth: 15' (4.8 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 285; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



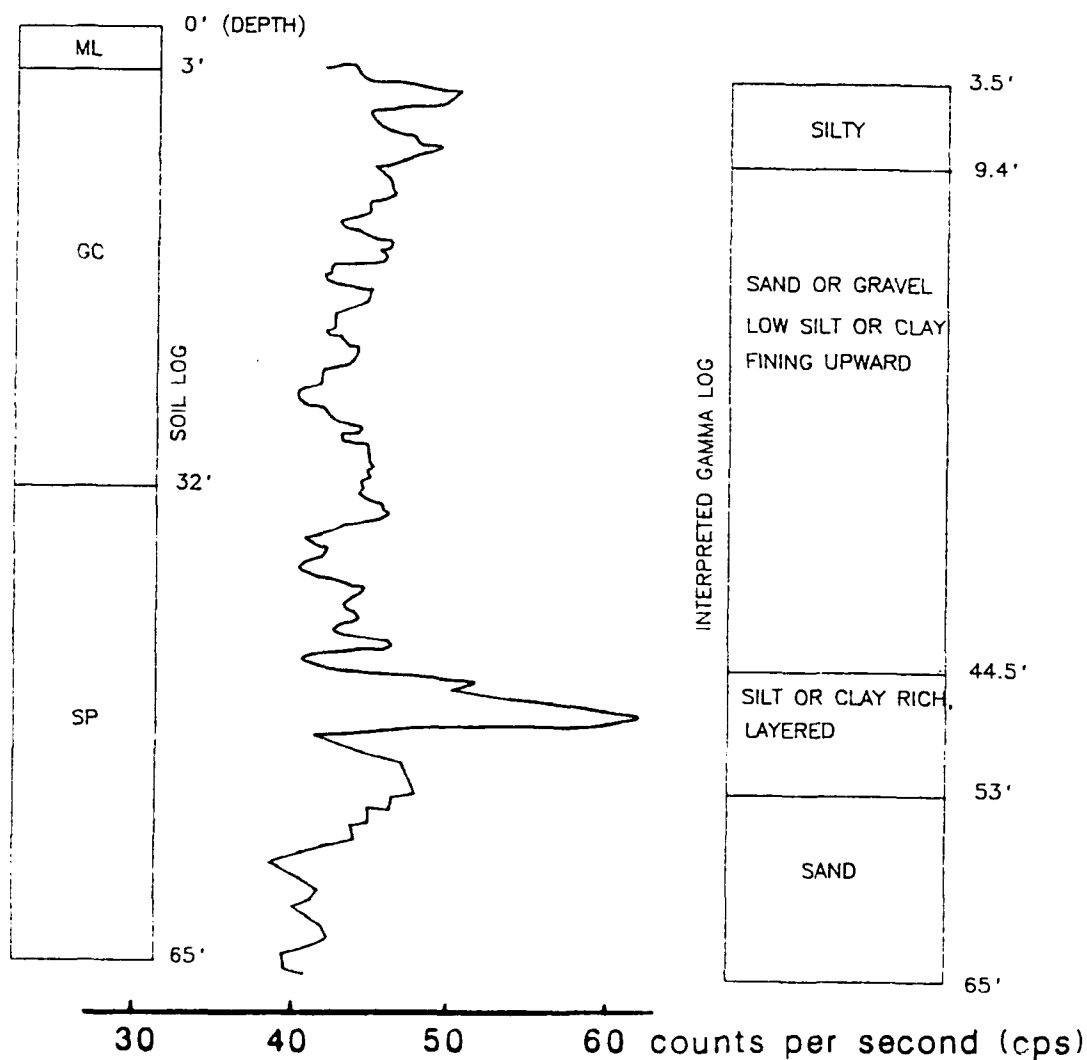
NATURAL GAMMA LOG
 SITE NS3-03

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Figure

Client: Black & Veatch
 Site number: BH Well number: 1 Sample number: 119
 Well location: Elmendorf Air Force Base, Alaska
 Not referenced (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 19 August 1988 Begin: 1605 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, north side
 Total depth: 20.4 metres Reported depth: 65' (19.7 m)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 70⁰ F.



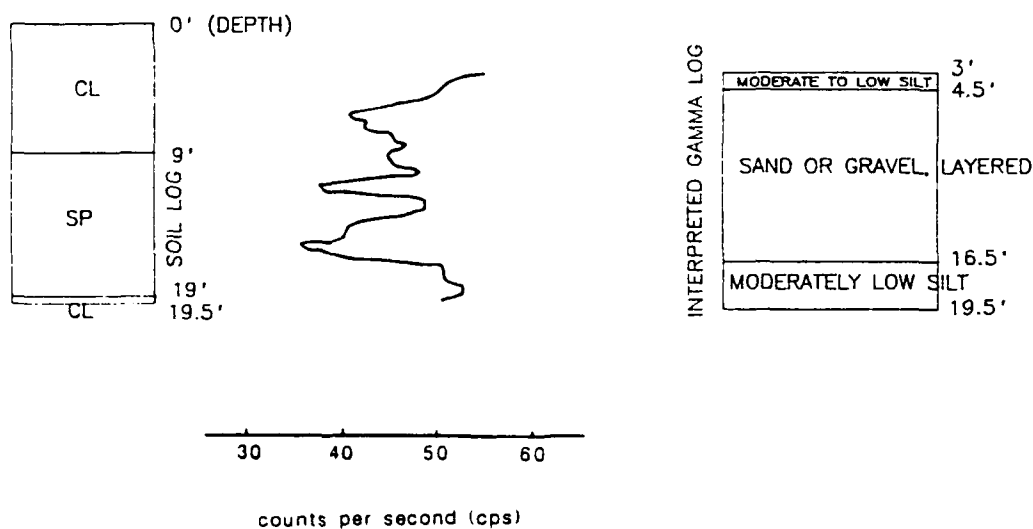
NATURAL GAMMA LOG SITE BH-1

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Figure

Client: Black & Veatch
 Site number: BH Well number: 4 Sample number: 122
 Well location: Elmendorf Air Force Base, Alaska
 Not referenced (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 19 August 1988 Begin: 1415 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC
 Total depth: 6.2 metres Reported depth: 18' (5.5 m)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Partly sunny, ca. 70° F.



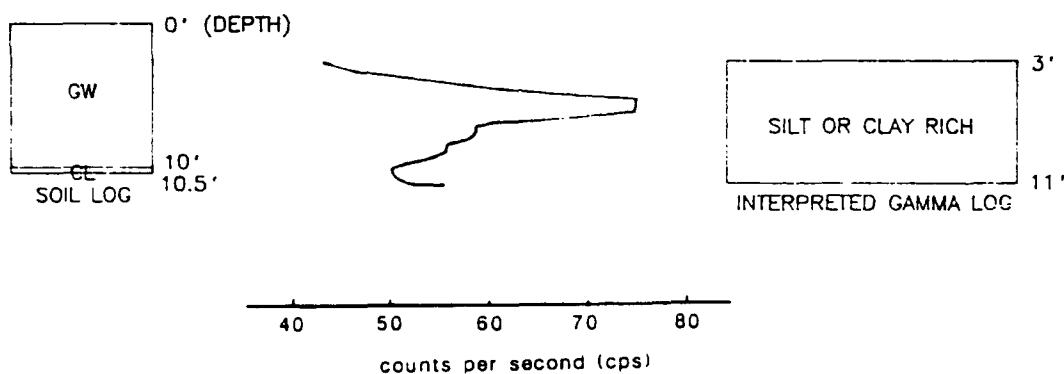
NATURAL GAMMA LOG SITE BH-4

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Figure

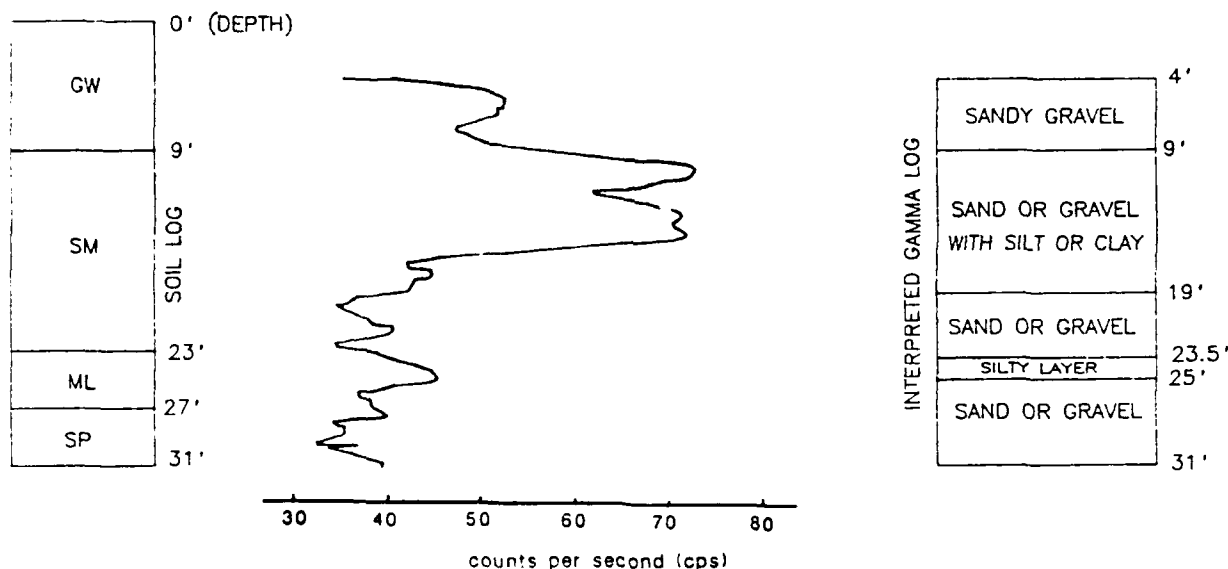
Client: Black & Veatch
 Site number: BH Well number: 6 Sample number: 124
 Well location: Elmendorf Air Force Base, Alaska
 Not referenced (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 19 August 1988 Begin: 1130 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, north side
 Total depth: 3.8 metres Reported depth: 10.4' (3.2m)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Sunny, ca. 70° F.



NATURAL GAMMA LOG
 SITE BH-6



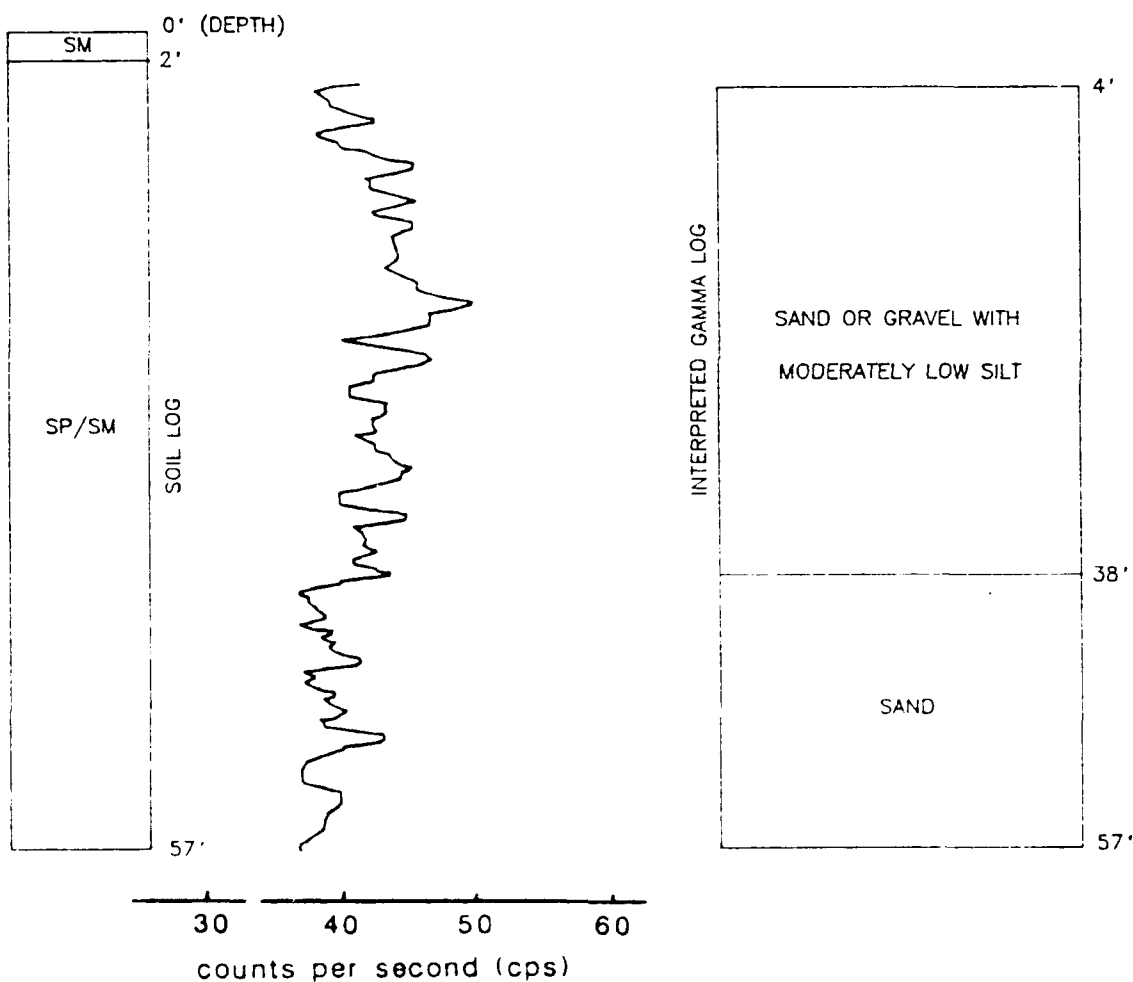
Client: Black & Veatch
 Site number: D-3 Well number: 02 Sample number: 002
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-1, page 5-35 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 15 August 1988 Begin: 1612 hrs
 Run: four
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 9.8 metres Reported depth: 31' (9.4 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Clear, ca. 70° F., slight breeze



NATURAL GAMMA LOG
 SITE D3-02



Client: Black & Veatch
 Site number: D-5 Well number: W-1 Sample number: 005
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-2, page 5-38 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 1355 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, level
 Total depth: 17.9 metres Reported depth: not available
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



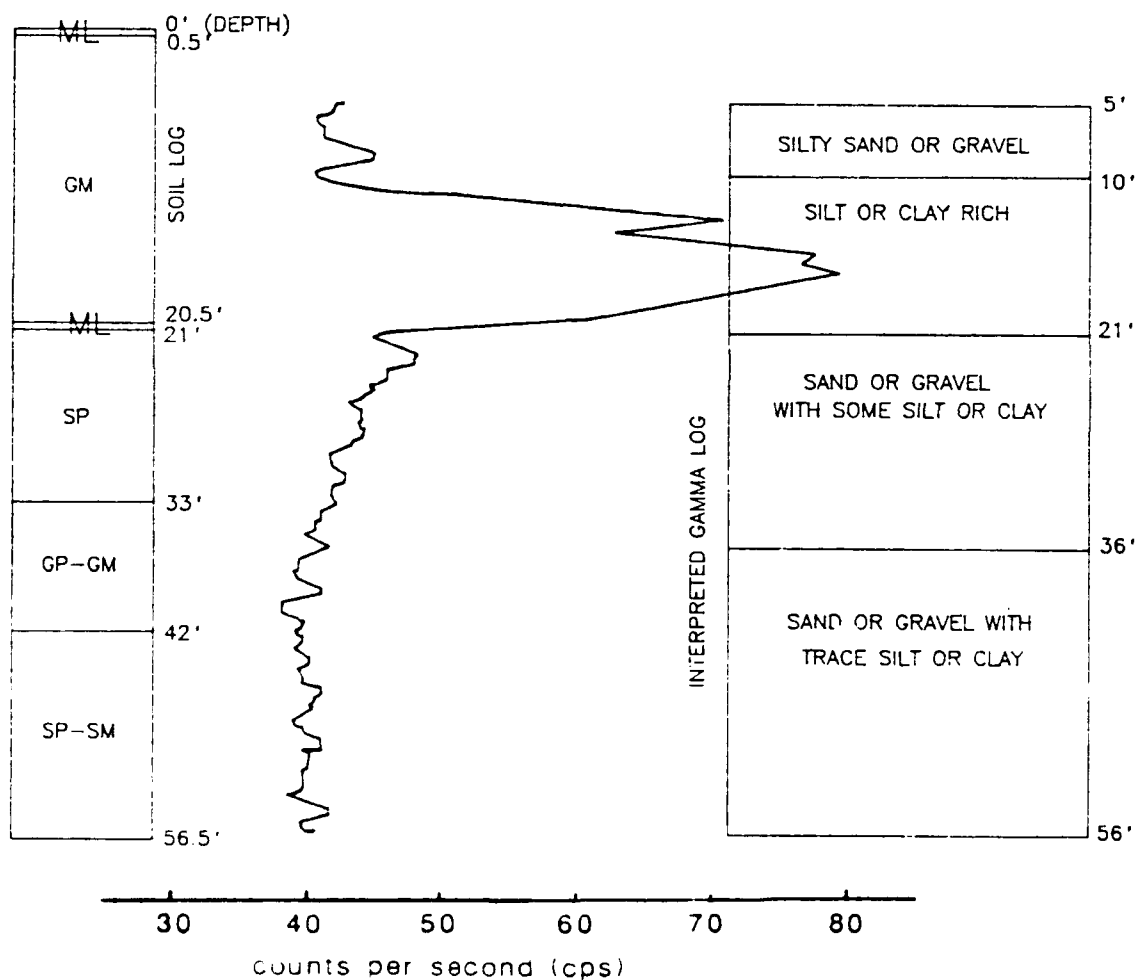
NATURAL GAMMA LOG
 SITE D5-W1

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Figure

Client: Black & Veatch
 Site number: D-7 Well number: W5 Sample number: 010
 Well location: Elmendorf Air Force Base, Alaska
 Not Listed (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 1515 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 17.1 metres Reported depth: not available
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 10 CPS/div., 0 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



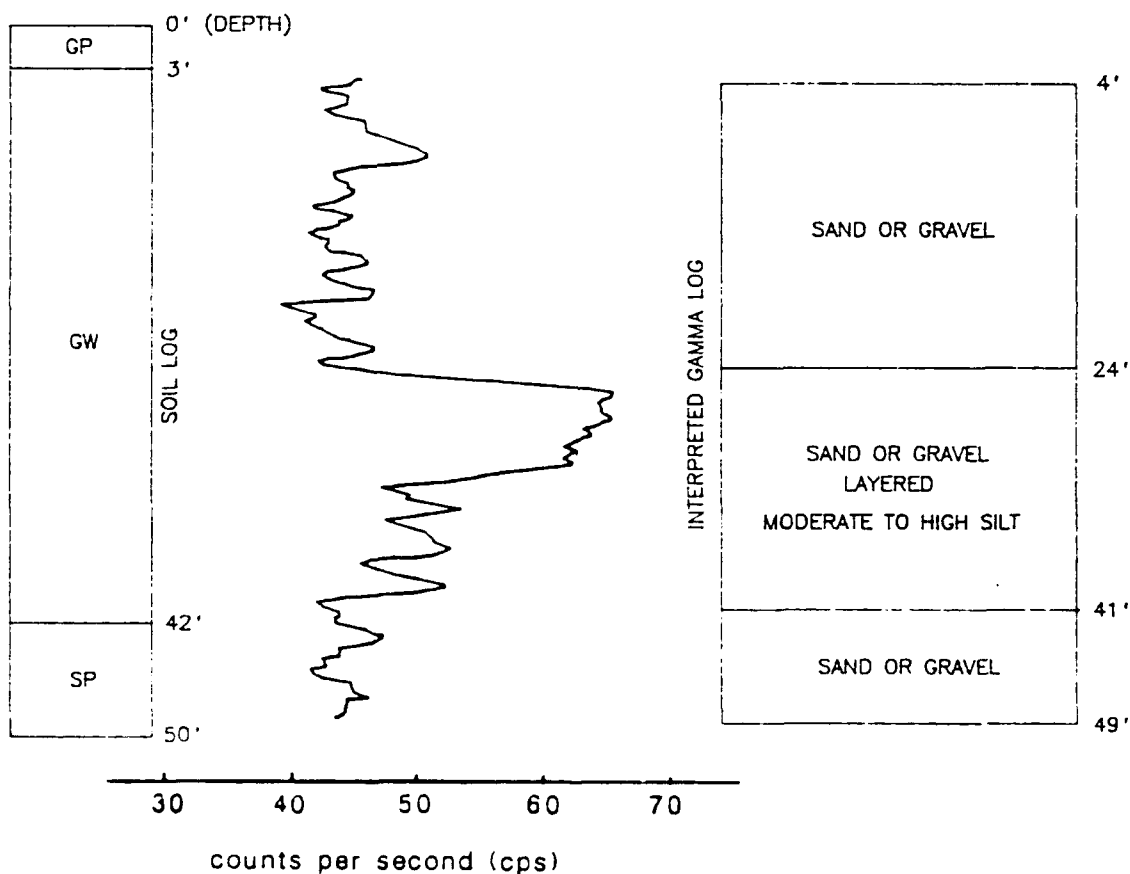
NATURAL GAMMA LOG SITE D7-W5

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Figure

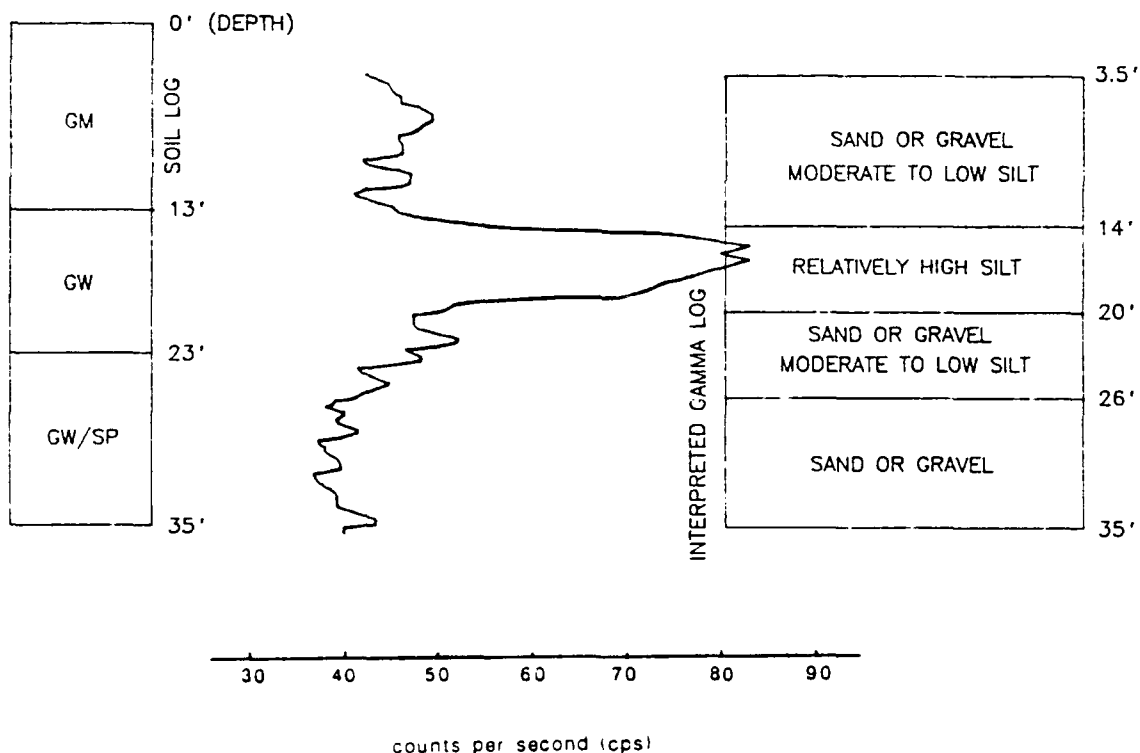
Client: Black & Veatch
 Site number: IS-3 Well number: Sample number: 035
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-7, page 5-53 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 16 August 1988 Begin: 1140 hrs
 Run: two
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, north northeast side
 Total depth: 13.6 metres Reported depth: 50' (15.2 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Clear, ca. 65° F., slight breeze



NATURAL GAMMA LOG
 SITE IS-3



Client: Black & Veatch
 Site number: IS-8 Well number: Sample number: 040
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-9, page 5-55 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 16 August 1988 Begin: 1645 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, south side
 Total depth: 11.4 metres Reported depth: 35' (10.6 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Partly Sunny, ca. 60° F.



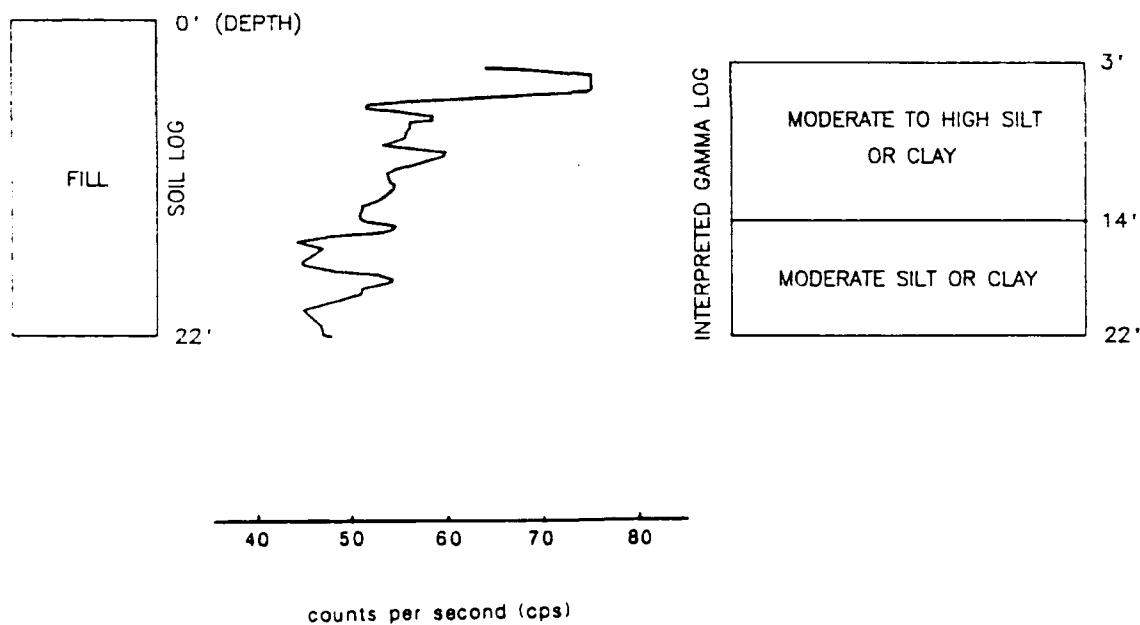
NATURAL GAMMA LOG SITE IS-8

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Figure

Client: Black & Veatch
 Site number: SP-1 Well number: 01 Sample number: 049
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-10, page 5-60 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 1800 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, north side
 Total depth: 7.1 metres Reported depth: 20' (6.1 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



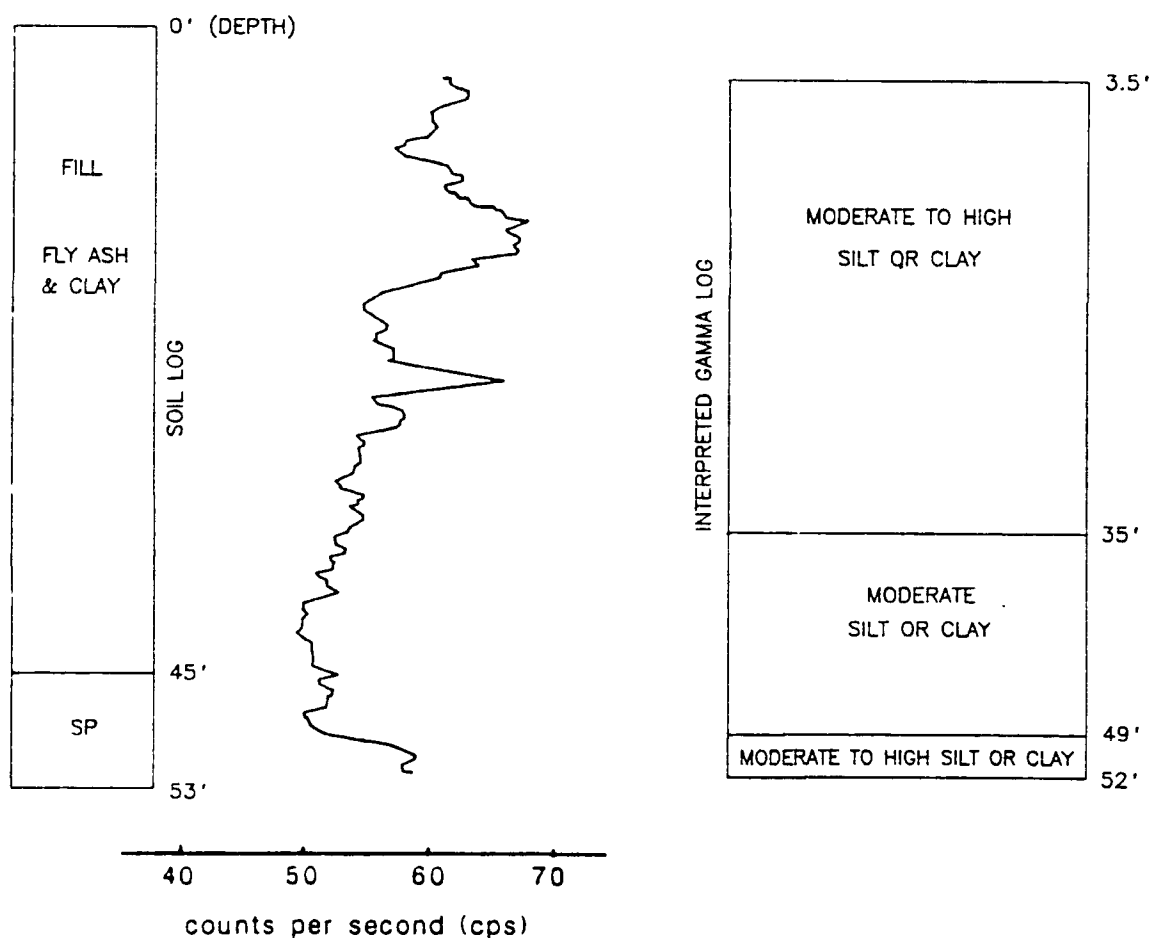
NATURAL GAMMA LOG
 SITE SP1-01

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Figure

Client: Black & Veatch
 Site number: SP-2/SP-6 Well number: 04 Sample number: 054
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-11, page 5-62 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 17 August 1988 Begin: 1530 hrs
 Run: three
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 16.3 metres Reported depth: 53.0' (16.1 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 10 CPS/div., no offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



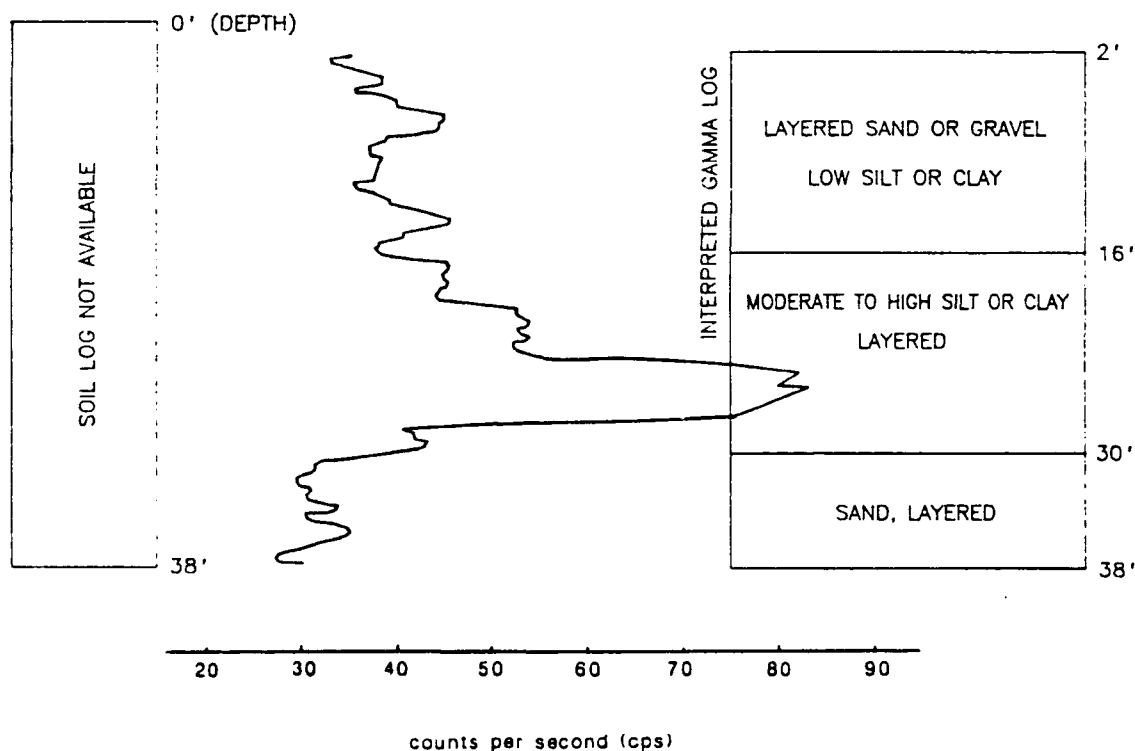
NATURAL GAMMA LOG SITE SP2/6-04

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Figure

Client: Black & Veatch
 Site number: SP-2/SP-6 Well number: GW-6 Sample number:
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-11, page 5-62 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 1625 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, northeast side
 Total depth: 11.9 metres Reported depth: not available
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



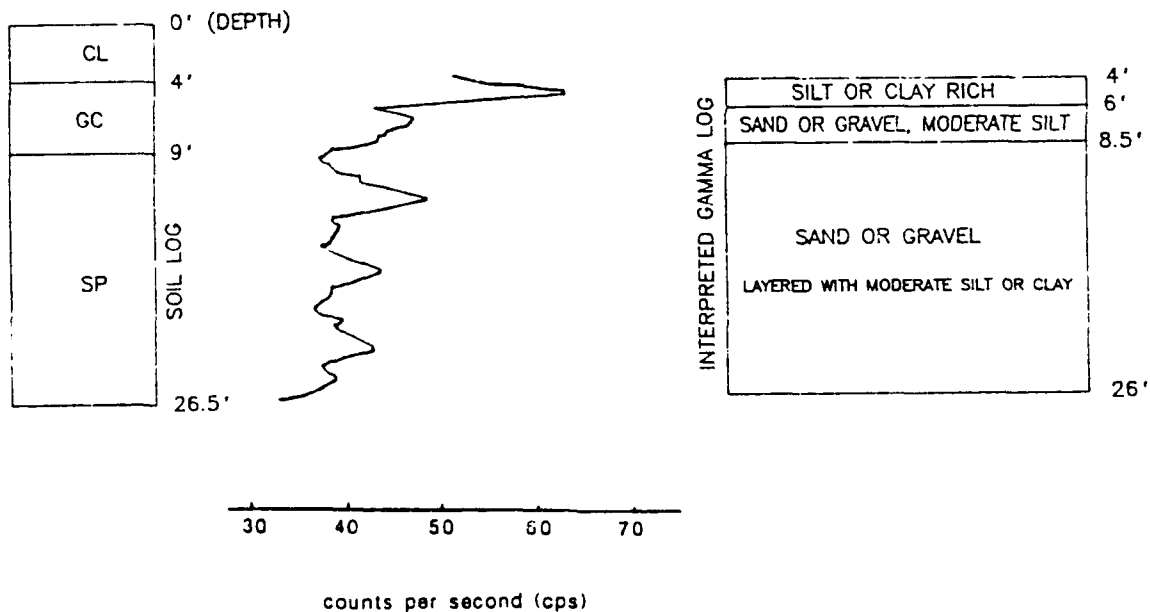
NATURAL GAMMA LOG
 SITE SP2/6-GW6

Woodward-Clyde Consultants



Figure

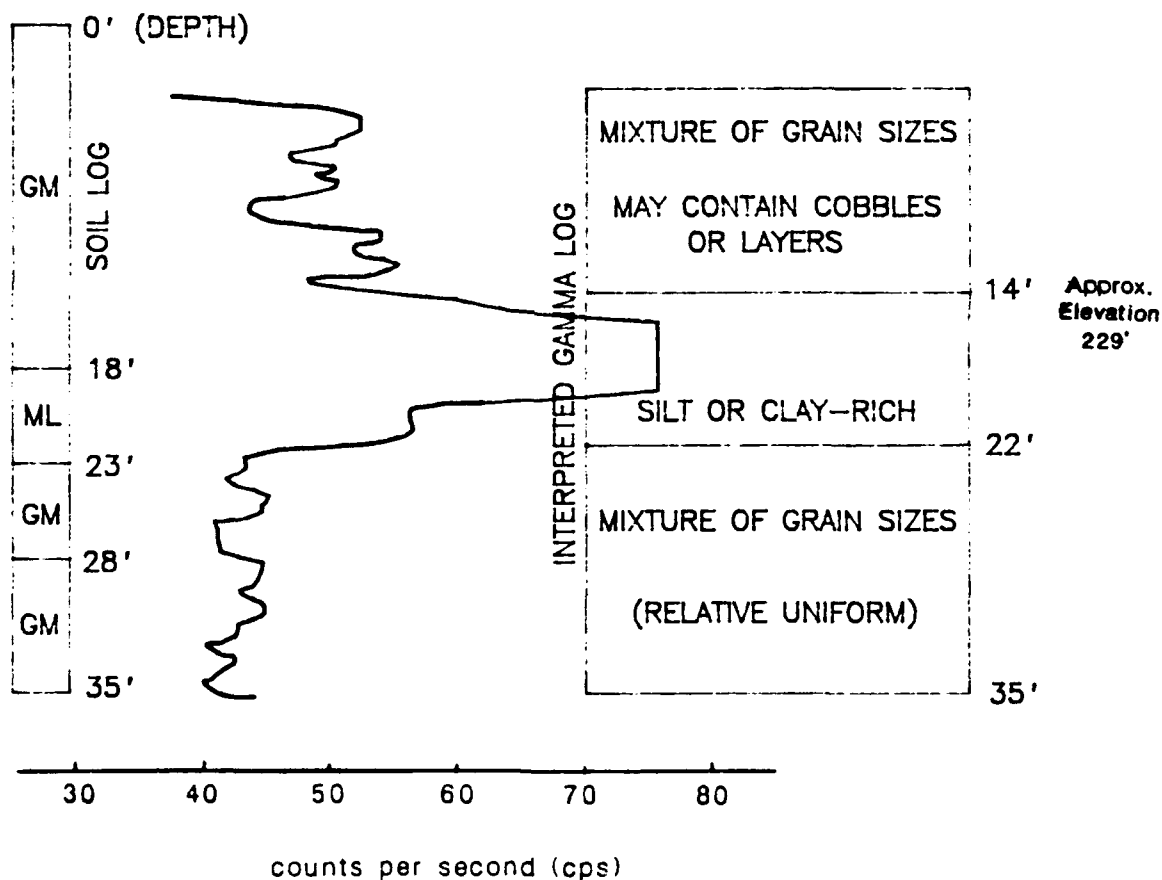
Client: Black & Veatch
 Site number: SP-4 Well number: 01 Sample number: 063
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-12, page 5-86 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 17 August 1988 Begin: 1125 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, south side
 Total depth: 8.4 metres Reported depth: 26.5' (8.4 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



NATURAL GAMMA LOG
 SITE SP4-01

Client: Black & Veatch
Site number: SP-5 Well number: 02 Sample number: 073
Well location: Elmendorf Air Force Base, Alaska
Refer to PLATE 5-14, page 5-72 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)

Date: 16 August 1988 Begin: 1530 hrs
Run: one
Rate: ca. 4 metres/ min Direction of log: uphole
Measured point: Top of PVC, east side
Total depth: 9.6 metres Reported depth: 36.5' (11 metres)
Scale: 1cm=1 metre
Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
Settings: 5 CPS/div. 5 CPS offset
Operator: Dan Young
Witness: Jacqueline Holzman
Weather: Partly cloudy, sunny, ca. 70° F., slight breeze

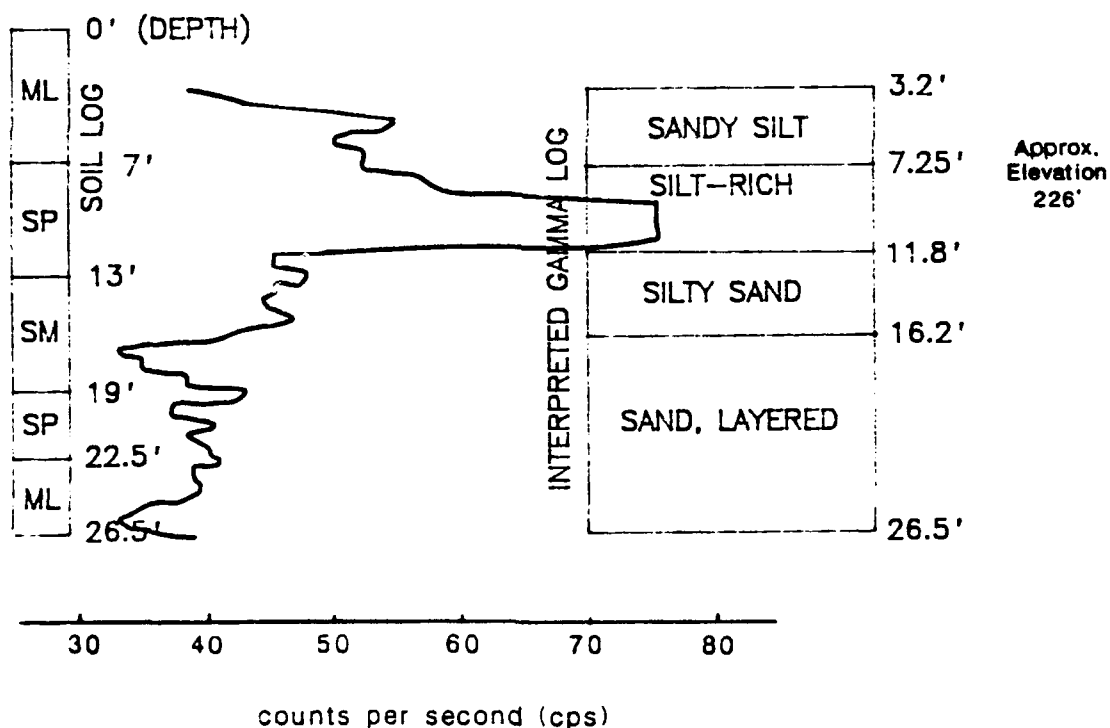


NATURAL GAMMA LOG
SITE SP5-02

Woodward-Clyde Consultants

Figure

Client: Black & Veatch
 Site number: SP-5 Well number: 08 Sample number: 079
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-14, page 5-72 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 16 August 1988 Begin: 1426 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 8.5 metres Reported depth: 26.5' (8 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Partly cloudy, sunny, ca. 70° F., slight breeze



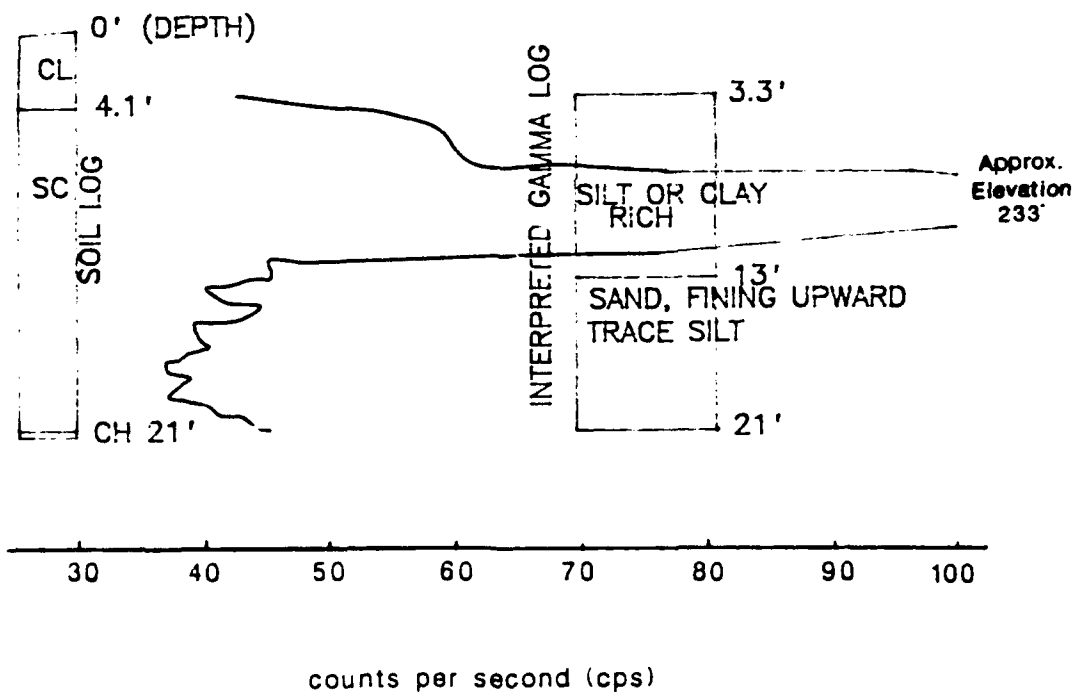
NATURAL GAMMA LOG
SITE SP5-08

Woodward-Clyde Consultants



Figure

Client: Black & Veatch
 Site number: SP-5A Well number: 15 Sample number: 067
 Well location: Elmendorf Air Force Base, Alaska
 Not Listed (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 19 August 1988 Begin: 1505 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, north side
 Total depth: 6.8 metres Reported depth: 21.5' (6.5m)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 65° F.



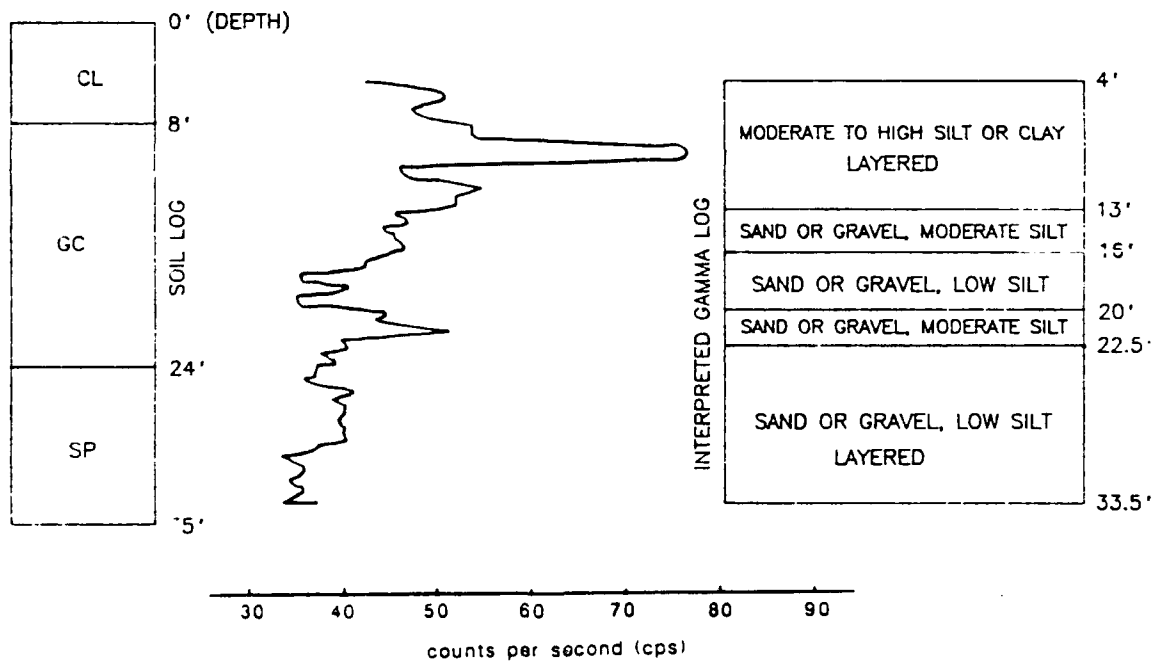
NATURAL GAMMA LOG
 SITE SP5A-15

Woodward-Clyde Consultants



Figure

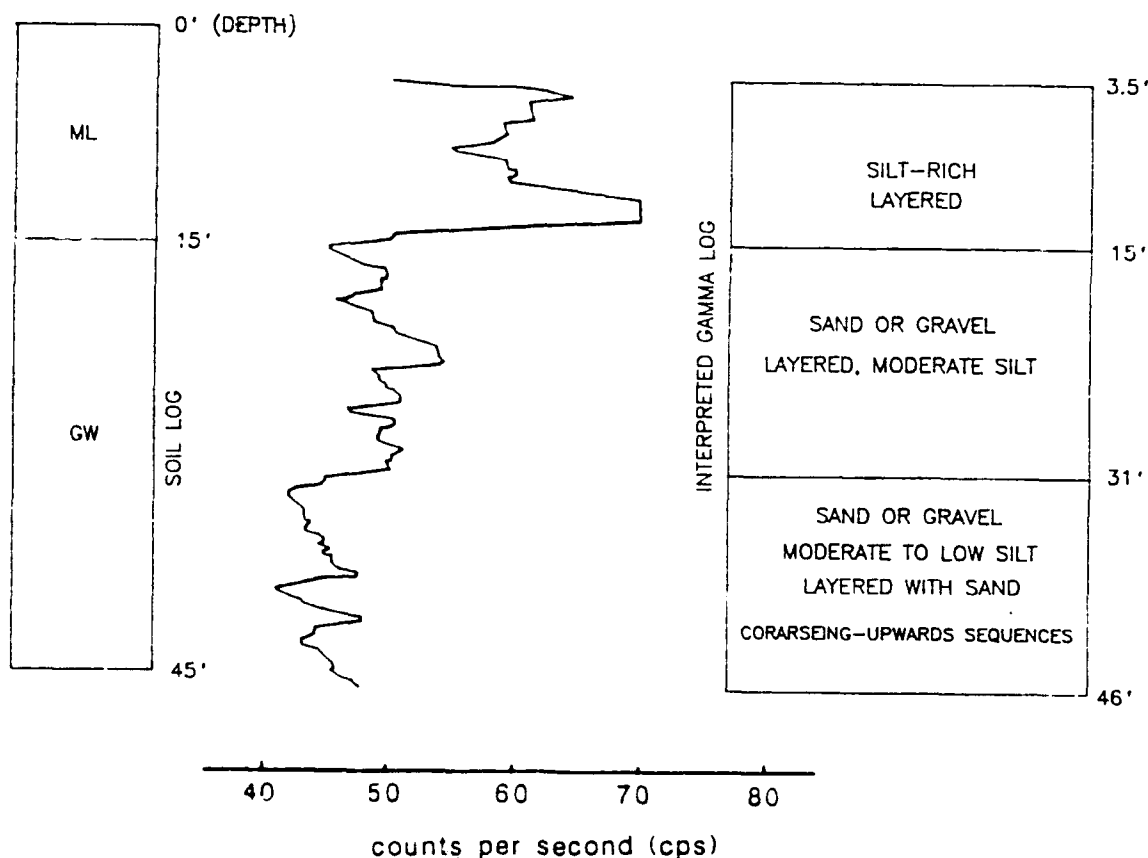
Client: Black & Veatch
 Site number: SP-7/SP-10 Well number: 01 Sample number: 084
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-15, page 5-76 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 16 August 1988 Begin: 0957 hrs
 Run: two
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, northeast side
 Total depth: 10.6 metres Reported depth: 35' (11.2 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Clear, calm, ca. 60° F.



NATURAL GAMMA LOG
 SITE SP7/10-01



Client: Black & Veatch
 Site number: SP-14 Well number: 02 Sample number: 097
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-9, page 5-55 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 17 August 1988 Begin: 1640 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, west side
 Total depth: 14.3 metres Reported depth: 45' (13.6 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 60° F.



NATURAL GAMMA LOG SITE SP14-02

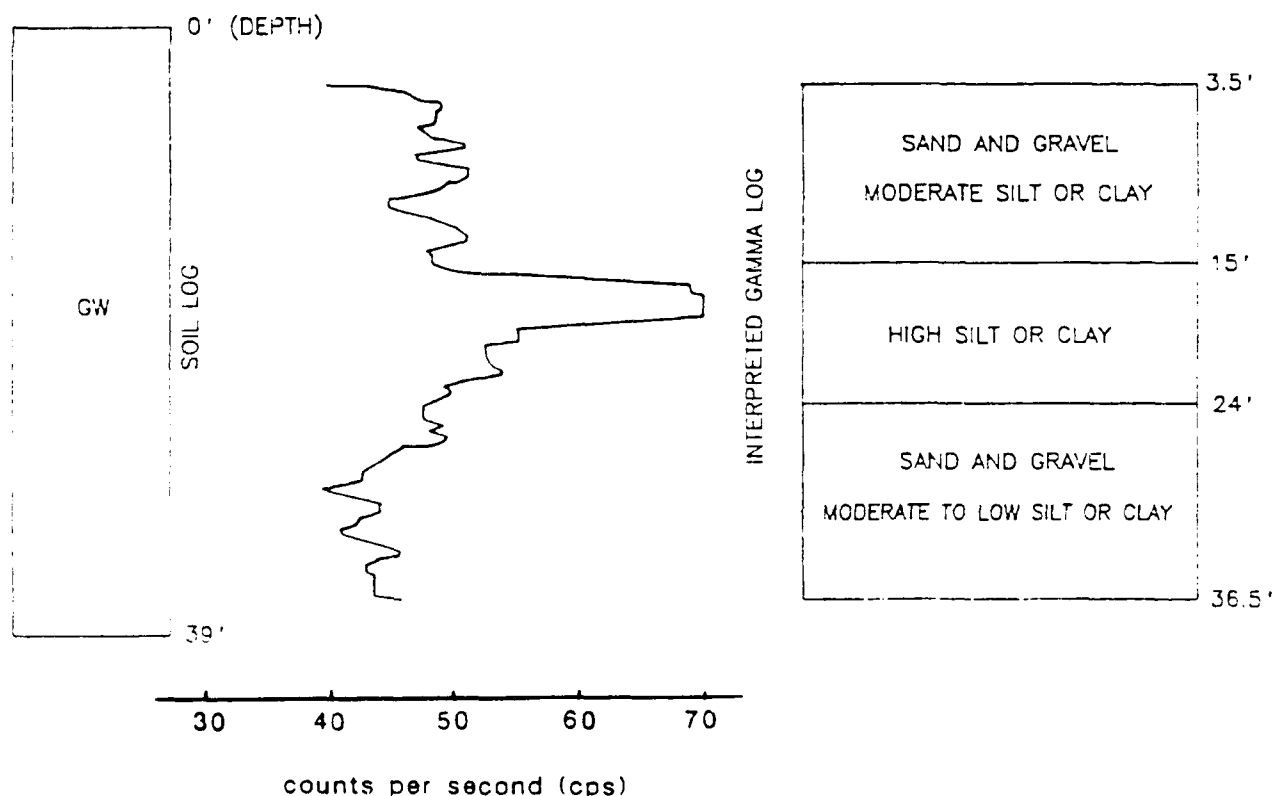
Woodward-Clyde Consultants



Figure

Client: Black & Veatch
 Site number: SP-15 Well number: 01 Sample number: 100
 Well location: Elmendorf Air Force Base, Alaska
 Refer to PLATE 5-17, page 5-84 (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 18 August 1988 Begin: 1055 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, east side
 Total depth: 11.4 metres Reported depth: 39' (11.8 metres)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Partly sunny, ca. 60° F.

INTERPRETED GAMMA LOG OF SP-15-01



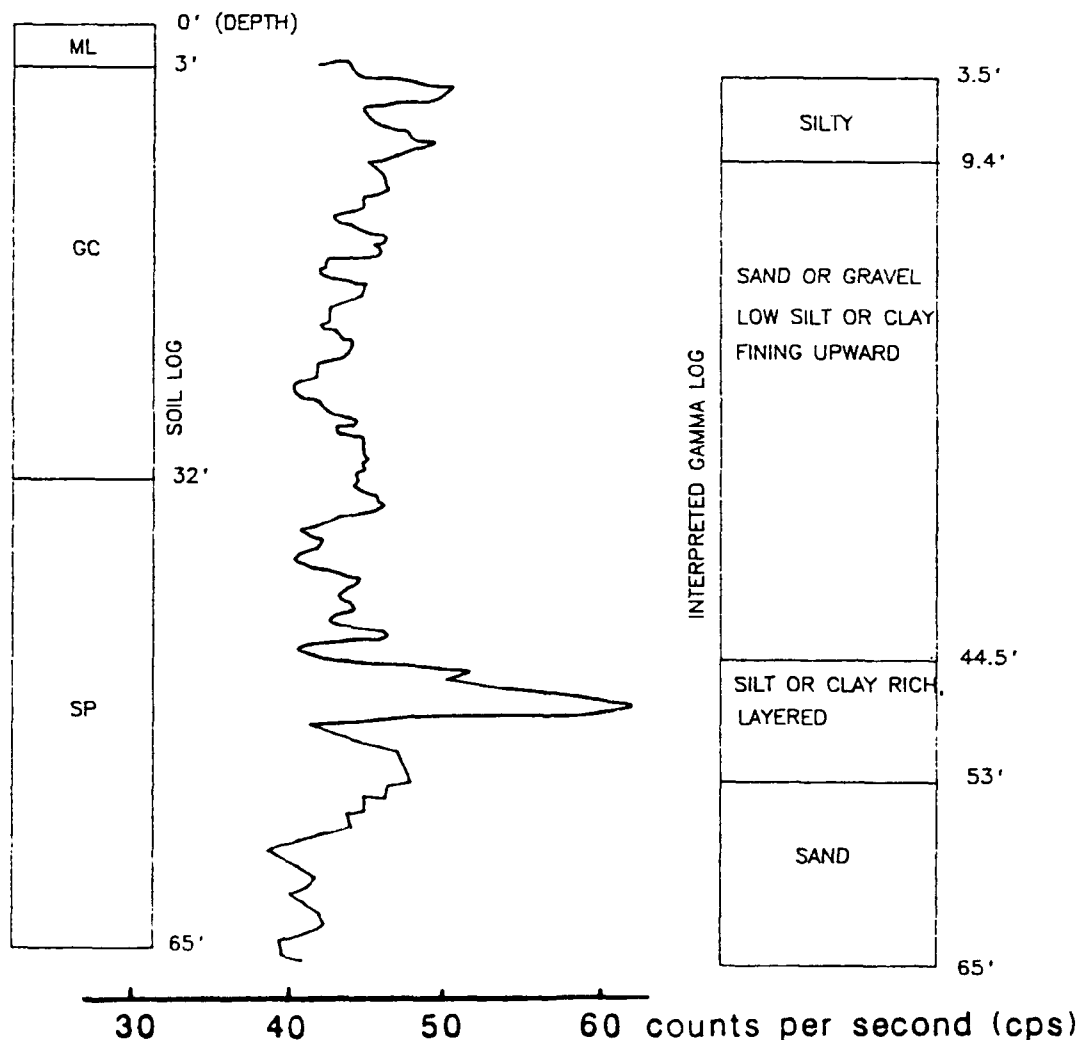
NATURAL GAMMA LOG
SITE SP15-01

Woodward-Clyde Consultants



Figure

Client: Black & Veatch
 Site number: BH Well number: 1 Sample number: 119
 Well location: Elmendorf Air Force Base, Alaska
 Not referenced (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 19 August 1988 Begin: 1605 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, north side
 Total depth: 20.4 metres Reported depth: 65' (19.7 m)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Overcast, ca. 70° F.



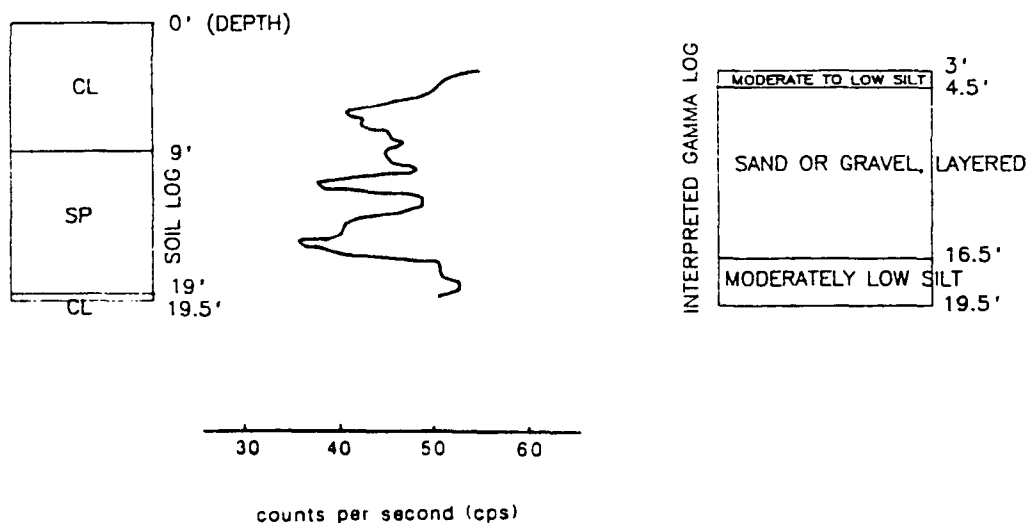
NATURAL GAMMA LOG SITE BH-1

Woodward-Clyde Consultants



Figure

Client: Black & Veatch
 Site number: BH Well number: 4 Sample number: 122
 Well location: Elmendorf Air Force Base, Alaska
 Not referenced (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 19 August 1988 Begin: 1415 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC
 Total depth: 6.2 metres Reported depth: 18' (5.5 m)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Partly sunny, ca. 70° F.



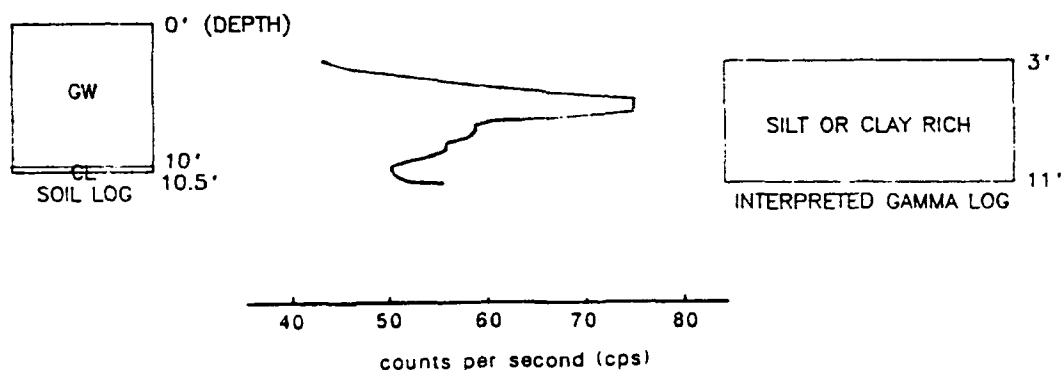
NATURAL GAMMA LOG SITE BH-4

Woodward-Clyde Consultants



Figure

Client: Black & Veatch
 Site number: BH Well number: 6 Sample number: 124
 Well location: Elmendorf Air Force Base, Alaska
 Not referenced (Black & Veatch, June 1988, *Quality Assurance Project Plan*)
 Date: 19 August 1988 Begin: 1130 hrs
 Run: one
 Rate: ca. 4 metres/ min Direction of log: uphole
 Measured point: Top of PVC, north side
 Total depth: 3.8 metres Reported depth: 10.4' (3.2m)
 Scale: 1cm=1 metre
 Equipment: Mt. Sopris 1000-C, sn 283; gamma-strat. sonde, sn 1682
 Settings: 5 CPS/div., 5 CPS offset
 Operator: Dan Young
 Witness: Jacqueline Holzman
 Weather: Sunny, ca. 70° F.



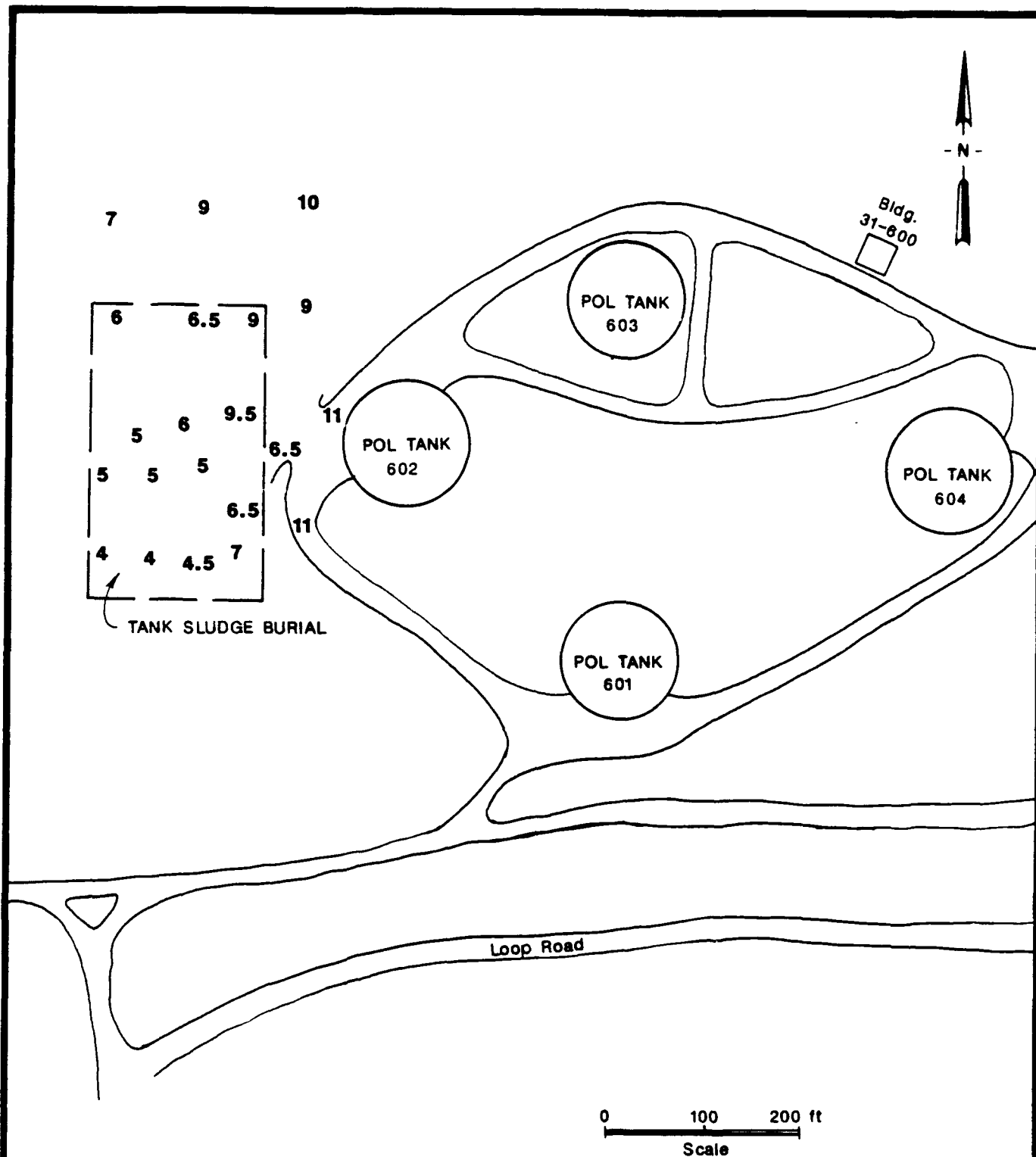
NATURAL GAMMA LOG
 SITE BH-6

Woodward-Clyde Consultants



Figure

Terrain Conductivity Data



Note:

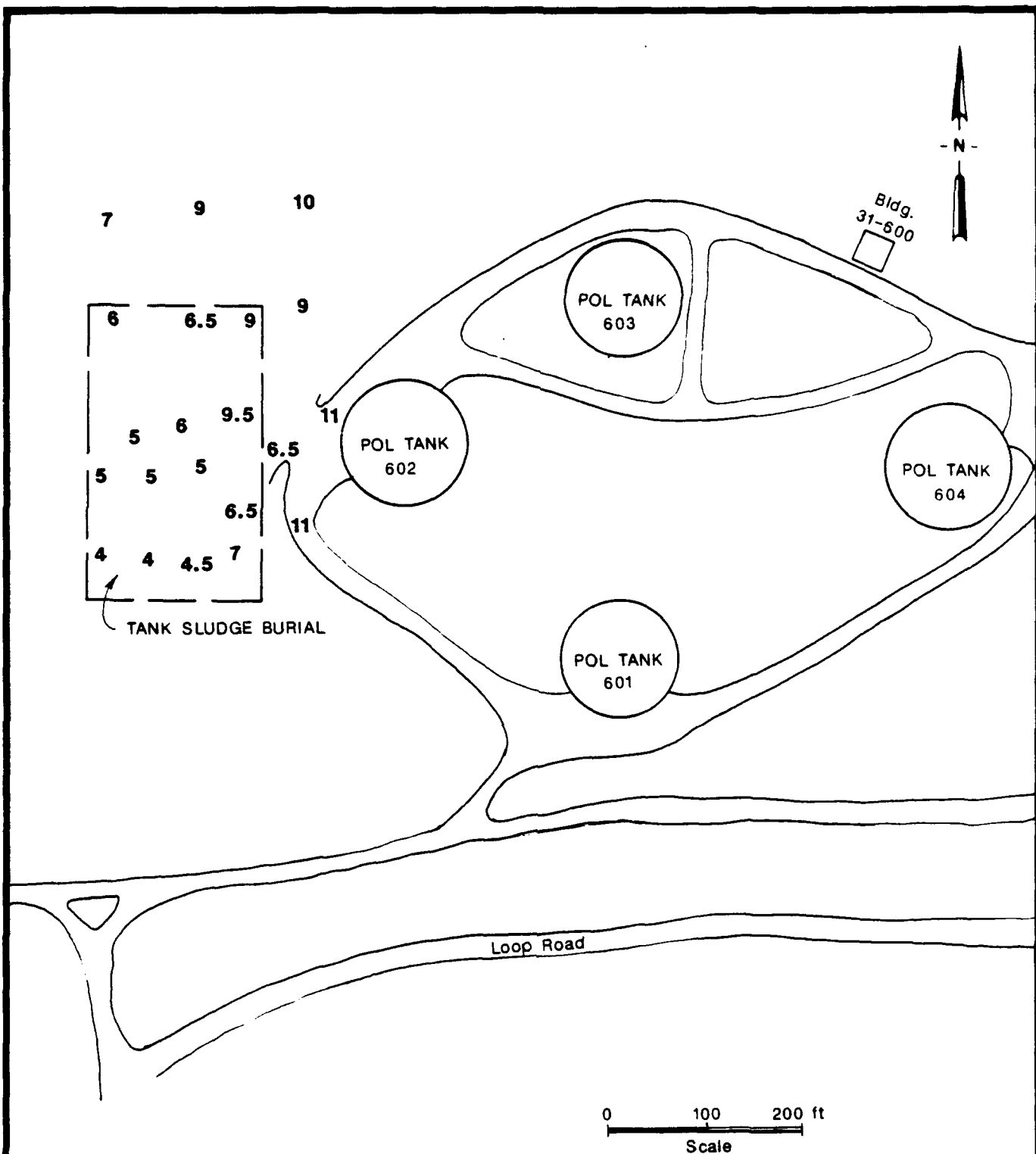
1. Instrument: Geonics EM-31
2. Values are apparent ground conductivity in millimhos/meter

**TANK SLUDGE BURIAL AREA
TERRAIN CONDUCTIVITY
SITE SP-5**

Woodward-Clyde Consultants



Figure



Note:

1. Instrument: Geonics EM-31
2. Values are apparent ground conductivity in millimhos/meter

**TANK SLUDGE BURIAL AREA
TERRAIN CONDUCTIVITY
SITE SP-5**

Woodward-Clyde Consultants



Figure

Pump Test Data

Subject Pump Test analysis Well GW-3A

Project No. 8830033A

By Jim Munter

Checked By

Task No. 0130

File No.

Date 11-8-88

Date

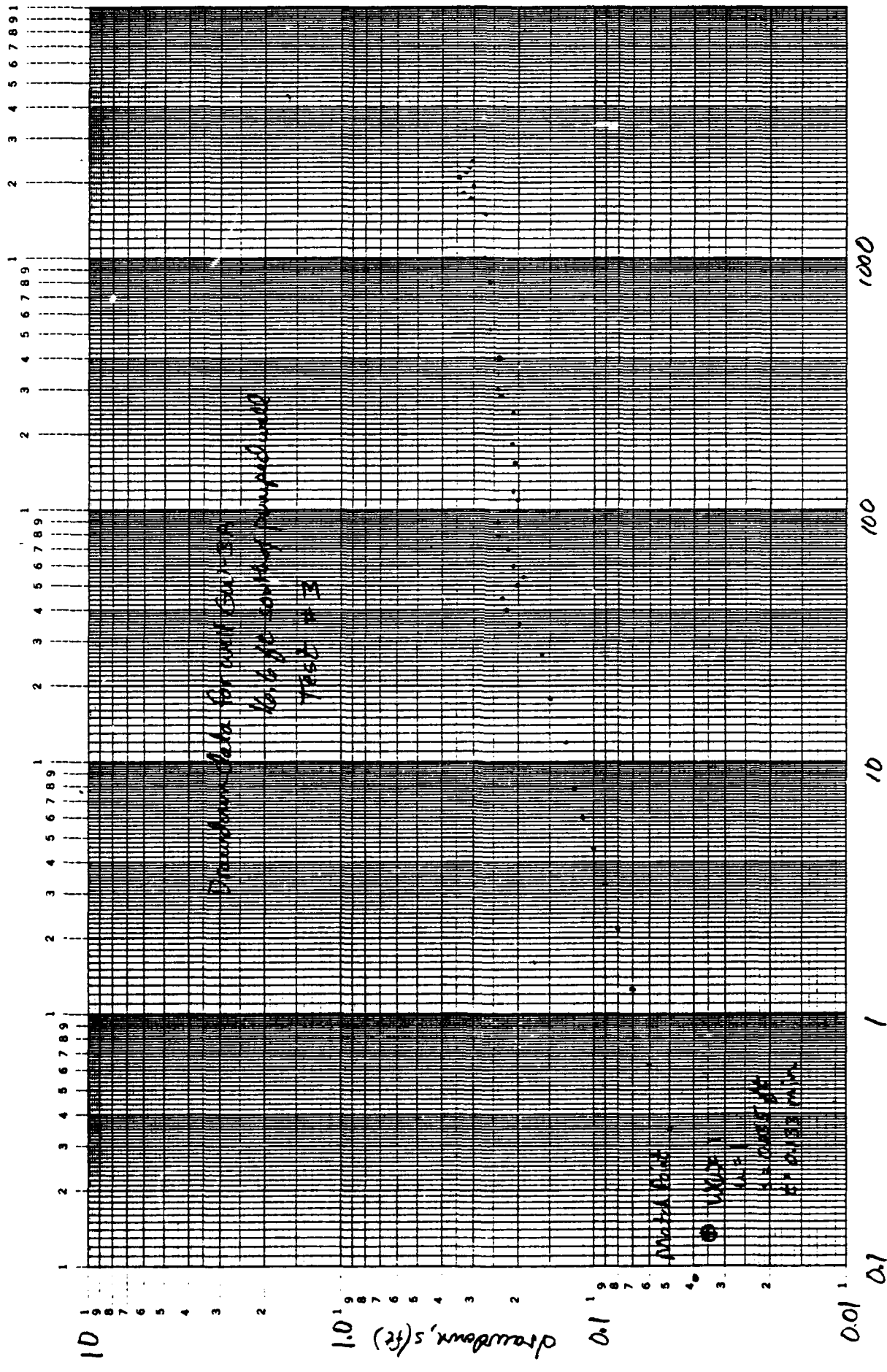
Sheet _____ of _____

Theis Method

$$T = \frac{Q W(u)}{4\pi s} = \frac{41.2 \text{ gal/min} \times 1440 \text{ min/day}}{4\pi (0.035 \text{ ft}) \times 7.48 \text{ gal/ft}^3} = 18,034 \text{ ft}^2/\text{day}$$
$$\Rightarrow K = 334 \text{ ft/day} \quad (b = 54 \text{ ft})$$

$$S = \frac{4Tsu}{r^2} = \frac{4 \times 18,034 \text{ ft}^2/\text{day} \times 0.133 \text{ min} \times \frac{1 \text{ day}}{1440 \text{ min}}}{(16.6 \text{ ft})^2} = 0.024$$





Subject Pump Test - Recovery Data analysisProject No. 88-20-33ABy J. Munter

Checked By

Task No. 0130File No. GW-3ADate 11-8-88

Date

Sheet _____ of _____

Recovery analysis

(using method in Johnson, 1966, p. 138-140)

$$T = \frac{264 Q}{\Delta s} = \frac{264 \times 41.2 \text{ gpm}}{0.083 \text{ ft}} = 131,040 \text{ gpd/ft} = 17,520 \text{ ft}^3/\text{day}$$

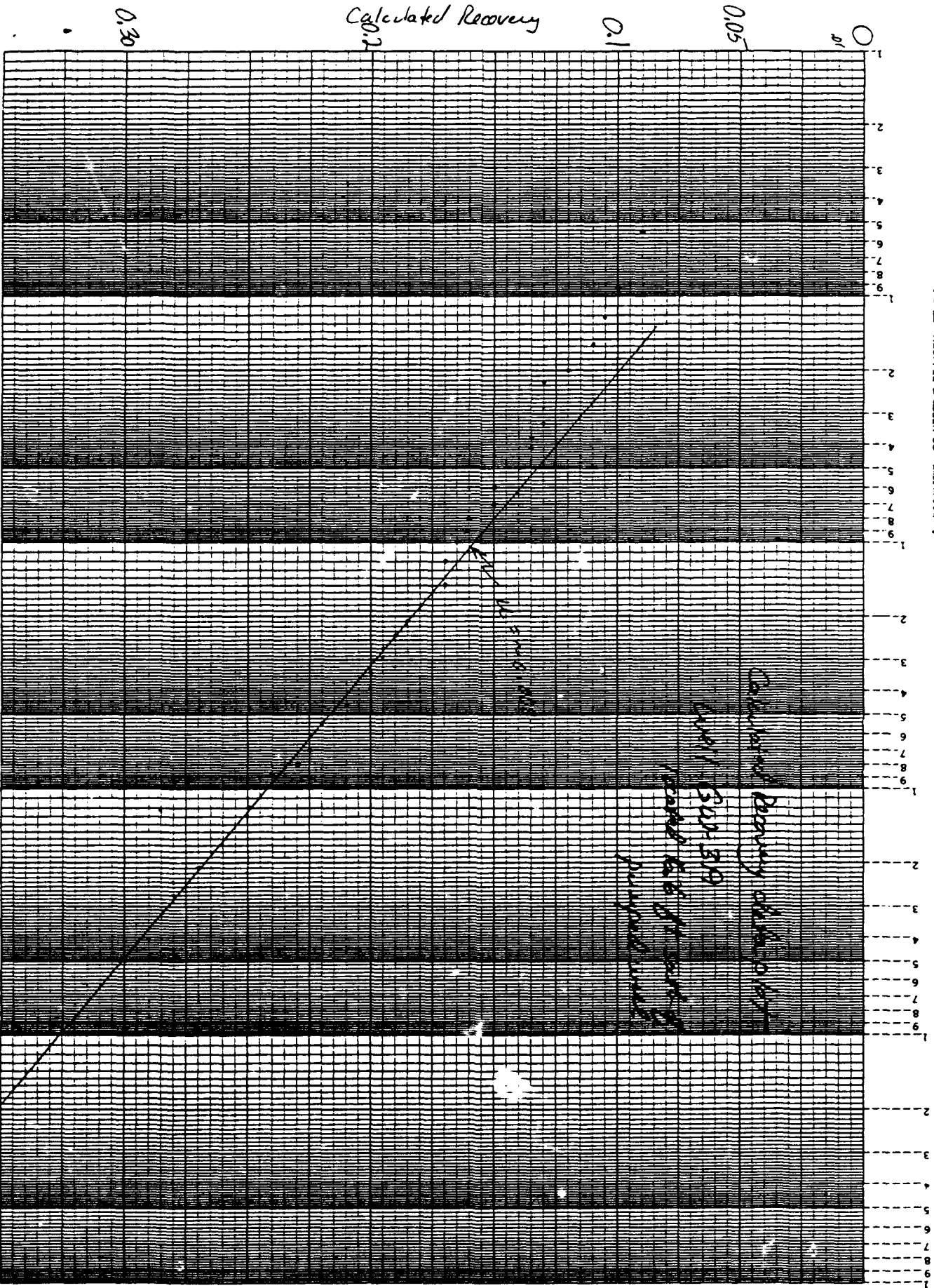
(-0.10 + 0.183) ft

$$S = \frac{0.3 T t_0}{r^2} = \frac{0.3 \times 131,040 \text{ gpd/ft} \times 0.135 \text{ min} \times \frac{1 \text{ day}}{1440 \text{ min}}}{(16.6 \text{ ft})^2} = 0.0134$$

$$U = \frac{(16.6)^3 (0.0134)}{4 (17,520) \left(\frac{10}{1440} \right)} = 0.0076 \Rightarrow \text{O.K.} \checkmark$$

This method is applicable because essentially stabilized drawdowns noted in obs. wells during latter part of test.





Subject Ramp Test - Residual dh vs t/t' - Well GW-3A

Project No. 8830033A

By J. Munter

Checked By

Task No. 0100

File No. _____

Date 11/18

Date

Sheet _____ of _____

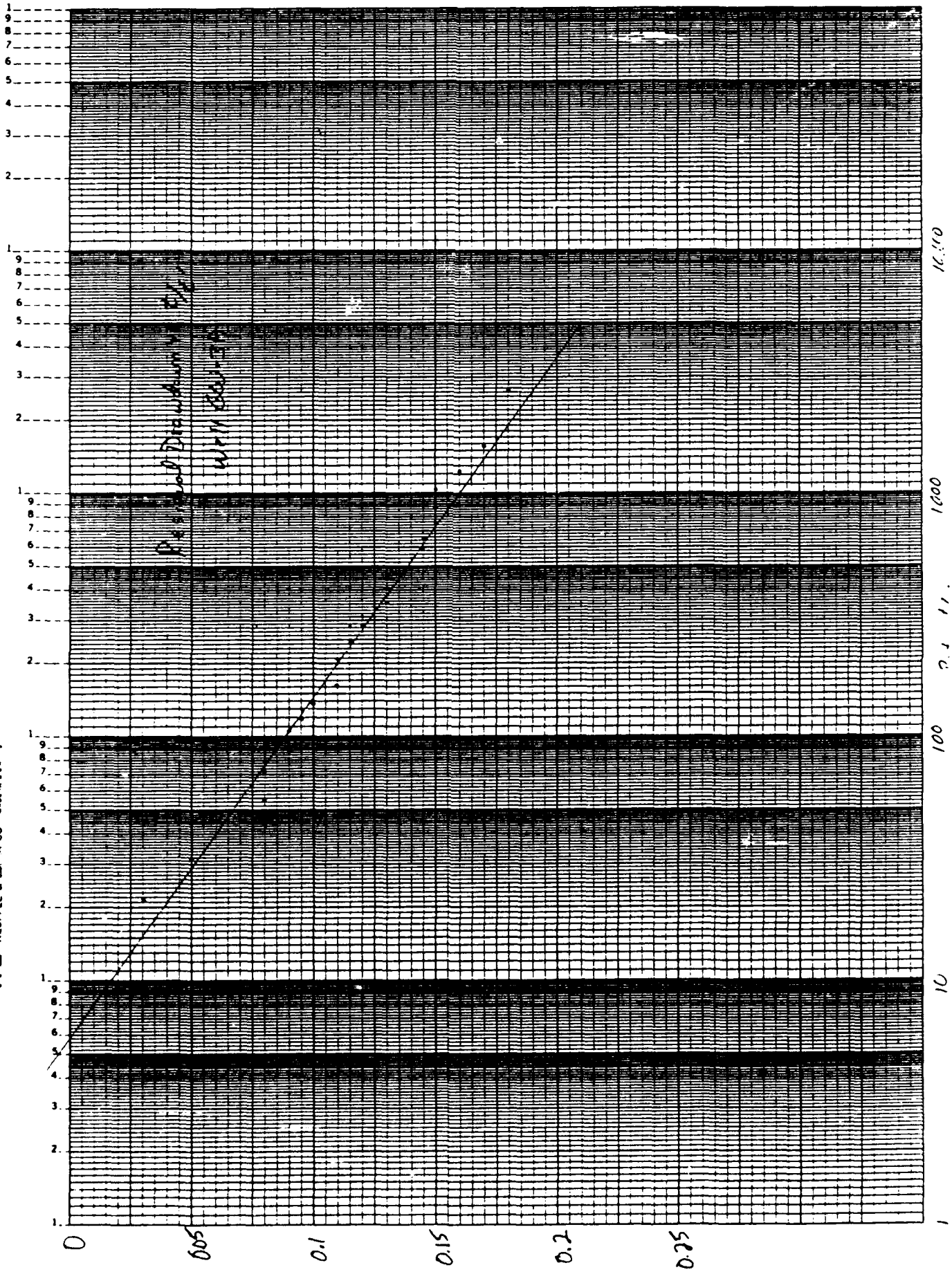
$$T = \frac{264 Q}{\Delta s'} = \frac{264 \times 41.2 \text{ gpm}}{0.16 - 0.088} = 151,066 \text{ gpd/ft} = 20,196 \text{ ft/day.}$$

t/t' intercept w' zero drawdown = 5.9 > 2 \Rightarrow

test affected by recharge (Johnson, 1966, p. 142)

K-E SEMILOG-GRAPHIC 5 CYCLES X 70 DIVISIONS
KEUFFEL & ESSEY CO. NEW YORK, N.Y.

46 6210



Subject Pump test analysis Well #2 PT-03

Project No. 8930033A

By J. Munter

Checked By

Task No. 0130

File No. Pump Test

Date 11-8-88

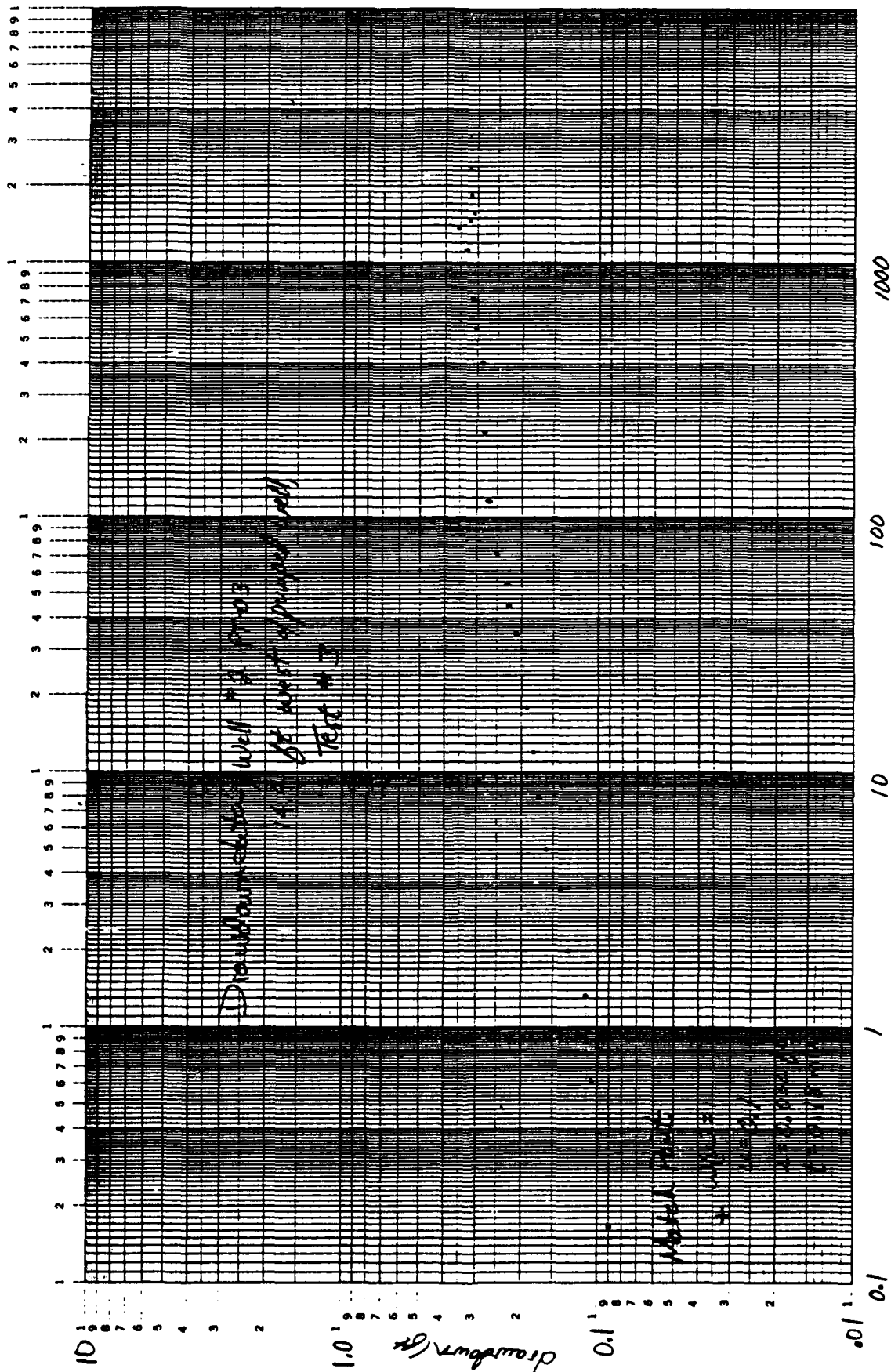
Date

Sheet _____ of _____

THEIS METHOD

$$T = \frac{Q W(u)}{4\pi s} = \frac{41.29 \text{ gal/min} \times 1 \times 1440 \text{ min/Day}}{4\pi (0.03 \text{ ft}) (7.48 \text{ gal/ft}^3)} = 19,724 \text{ ft}^2/\text{Day}$$
$$\Rightarrow K = 365 \text{ ft/Day} \quad b = 54'$$

$$S = \frac{4Tcu}{r^2} = \frac{4 \times 19,724 \text{ ft}^2/\text{Day} \times 0.19 \text{ min} \times \frac{1 \text{ day}}{1440 \text{ min}} \times 0.1}{(14.9 \text{ ft})^2} = 0.0044$$



Subject Pump Test - Recovery data Analysis

Project No. 88 300 33A

By J. Munder

Checked By

Task No. 0130

File No. PT03

Date 11-8-88

Date

Sheet _____ of _____

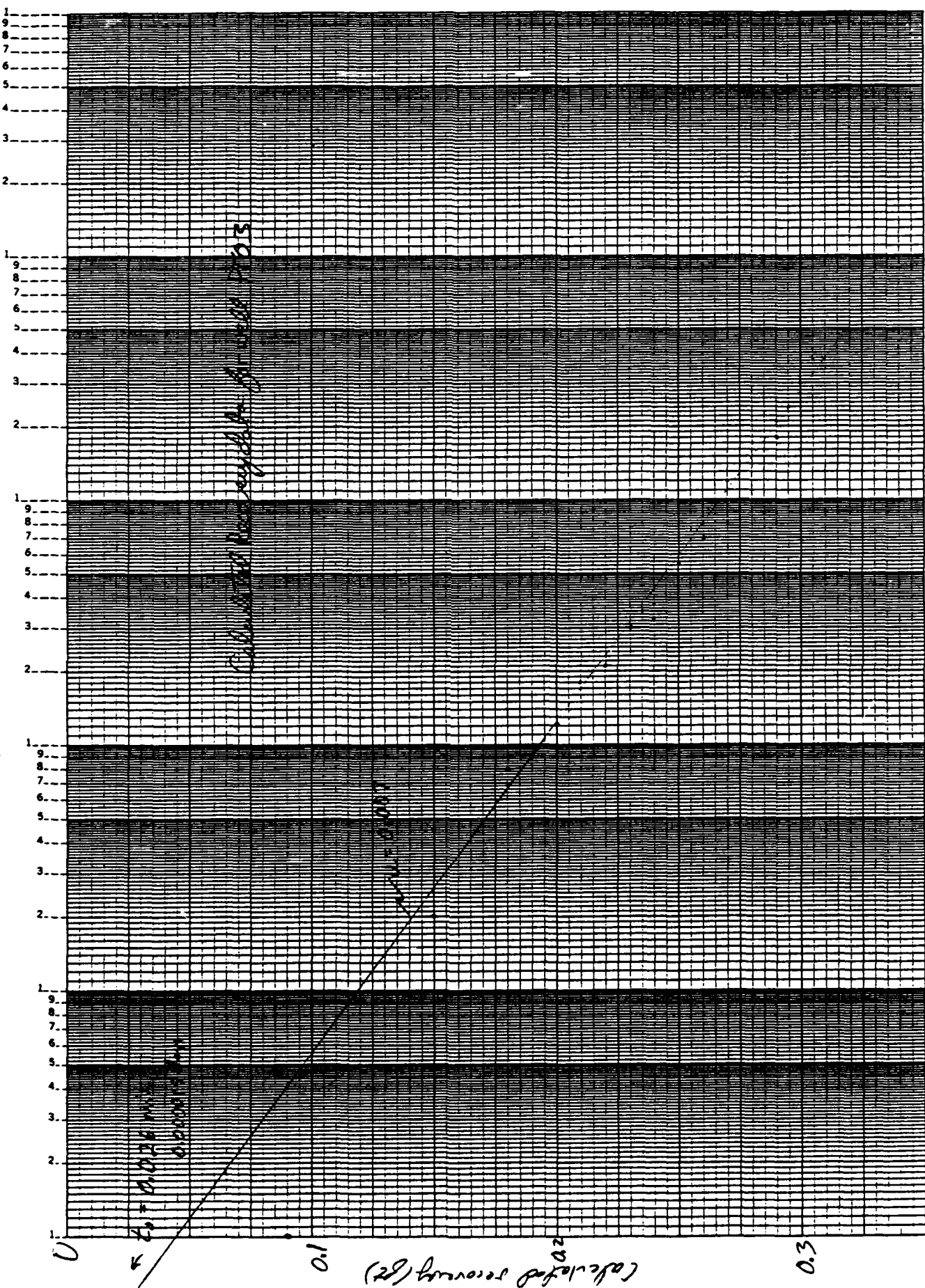
Calculated Recovery data $r = 14.9 \text{ ft}$

$$T = \frac{264 \text{ Q}}{4S} = \frac{264 \times 41.2}{0.118 - 0.045} = 148,997 \text{ gal/ft}^2 = 19,919 \text{ ft}^3/\text{day}$$

$$S = \frac{0.3 \times 148,997 \times 0.000018 \text{ days}}{(14.9 \text{ ft})^2} = 0.0036$$

$$u = \frac{r^2 S}{4Tz} = \frac{(14.9)^2 \times 0.0036}{4 \times 19,919 \times \frac{2}{1440}} = 0.007 \Rightarrow \text{Method O.K.}$$

46 6210



10, ..., 100, 1000

Subject Pump Test analysis

Project No. 880033A

By Jim Munter

Checked By

Task No. 0130

File No. PT04

Date 11-8-88

Date

Sheet _____ of _____

Theis Method
Match Point 1

$$T = \frac{Q u \mu}{4 \pi S} = \frac{7932 \text{ ft}^3/\text{day} \times 10}{4 \pi (0.07 \text{ ft})} = 90,167 \text{ ft}^2/\text{day}$$

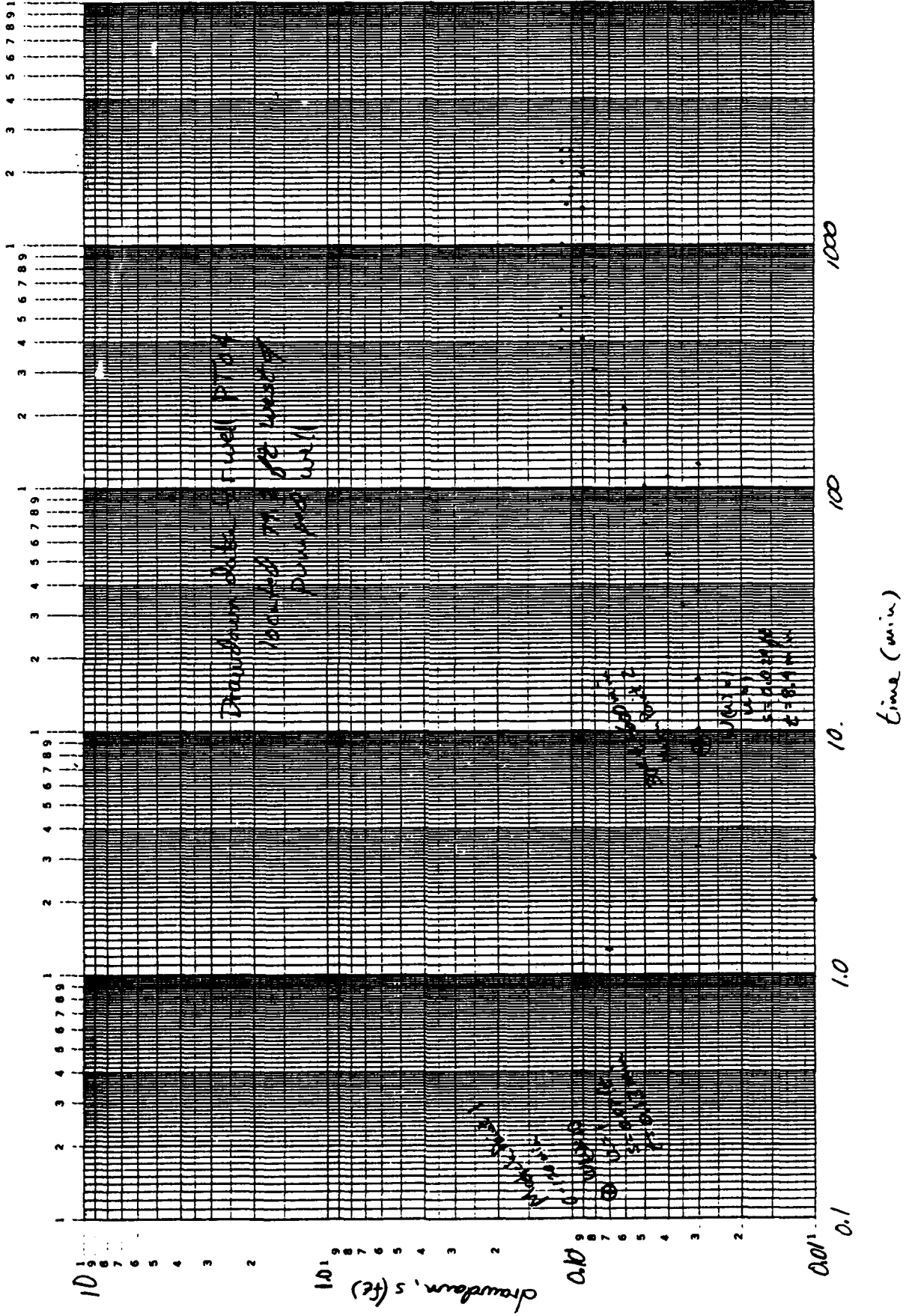
$$S = \frac{4 T t u}{r^2} = \frac{4 (90,167 \text{ ft}^2/\text{day} \times 0.13 \text{ min} \times \frac{1 \text{ day}}{1440 \text{ min}})}{(79.2 \text{ ft})^2} = 0.0052$$

Match Point 2

$$T = \frac{7932 \times 1}{4 \pi 0.029} = 21,766 \text{ ft}^2/\text{day}$$

$$S = \frac{4 T t u}{r^2} = \frac{4 \times 21,766 \times 8.4 \text{ min} \times \frac{1 \text{ day}}{1440 \text{ min}}}{(79.2 \text{ ft})^2} = 0.081$$





Subject Pump Test analysis - Recovery data

Project No. 88300 33A

By Jim Munter

Checked By

Task No. 0130

File No. PT04

Date 11-8-88

Date

Sheet _____ of _____

Calculated Recovery method

$$T = \frac{264 Q}{\Delta s} = \frac{264 \times 41.2}{0.116 \text{ ft} \times 0.25 \text{ ft}} = 119525 \frac{\text{gal}}{\text{ft}^2} = 15,979 \frac{\text{ft}^2}{\text{day}}$$

$$S = \frac{0.3 T t_p}{r^2} = \frac{0.3 \times 119525 \frac{\text{gal}}{\text{ft}^2} \times 5.5 \text{ min} \times \frac{1 \text{ day}}{1440 \text{ min}}}{(79.2 \text{ ft})^2} = 0.022$$

$$u = \frac{r^2 S}{4 T t} = \frac{(79.2 \text{ ft})^2 \times 0.022}{4 (15,979) \left(\frac{30}{1440} \right)} = 0.15$$

if $t = 50 \text{ min}$ $u = 0.06$

if $t = 70 \text{ min}$ $u = 0.04$

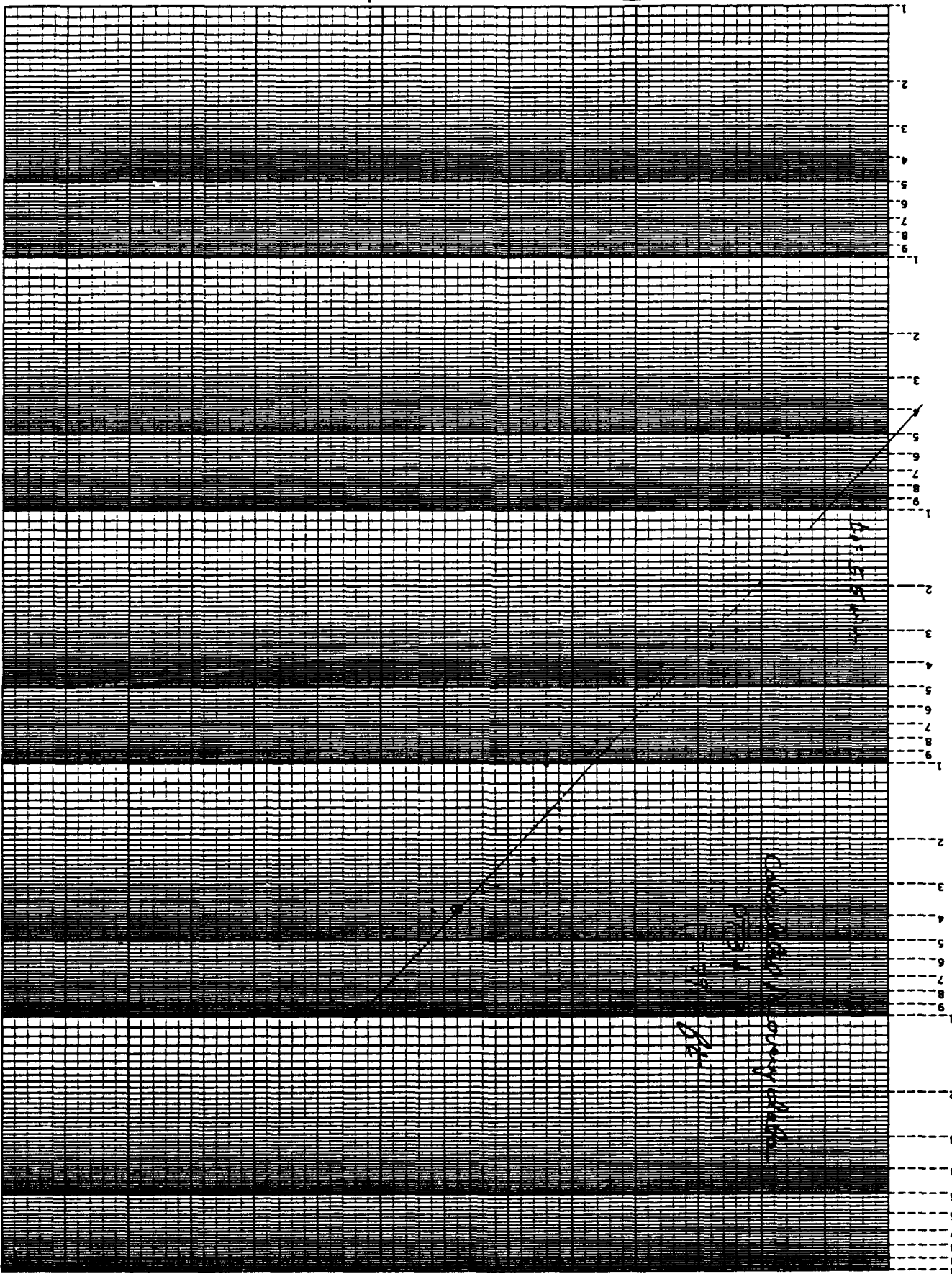
if $t = 100 \text{ min}$ $u = 0.03$

\Rightarrow analysis ok for late date.

Calculated Recovery 0.2

K&E
SEMI-LOGARITHMIC 5 CYCLES X 70 DIVISIONS
KEUFEL & ESSER CO. MADE IN U.S.A.

46 6210



0.1

10

Time since pumping stopped

1000

Calculated Recovery data

0.2

Subject Pump Test Analysis - Distance-DrawdownProject No. 8830033ABy J Munker

Checked By _____

Task No. 0130

File No. _____

Date 11/8

Date _____

Sheet _____ of _____

Distance drawdown method

$$T = \frac{528 Q}{\Delta s} = \frac{528 \times 41.2 \text{ gpm}}{(0.45 - 0) \text{ ft}} = 48341 \text{ gpd/ft} = 6463 \text{ ft}^2/\text{day}$$

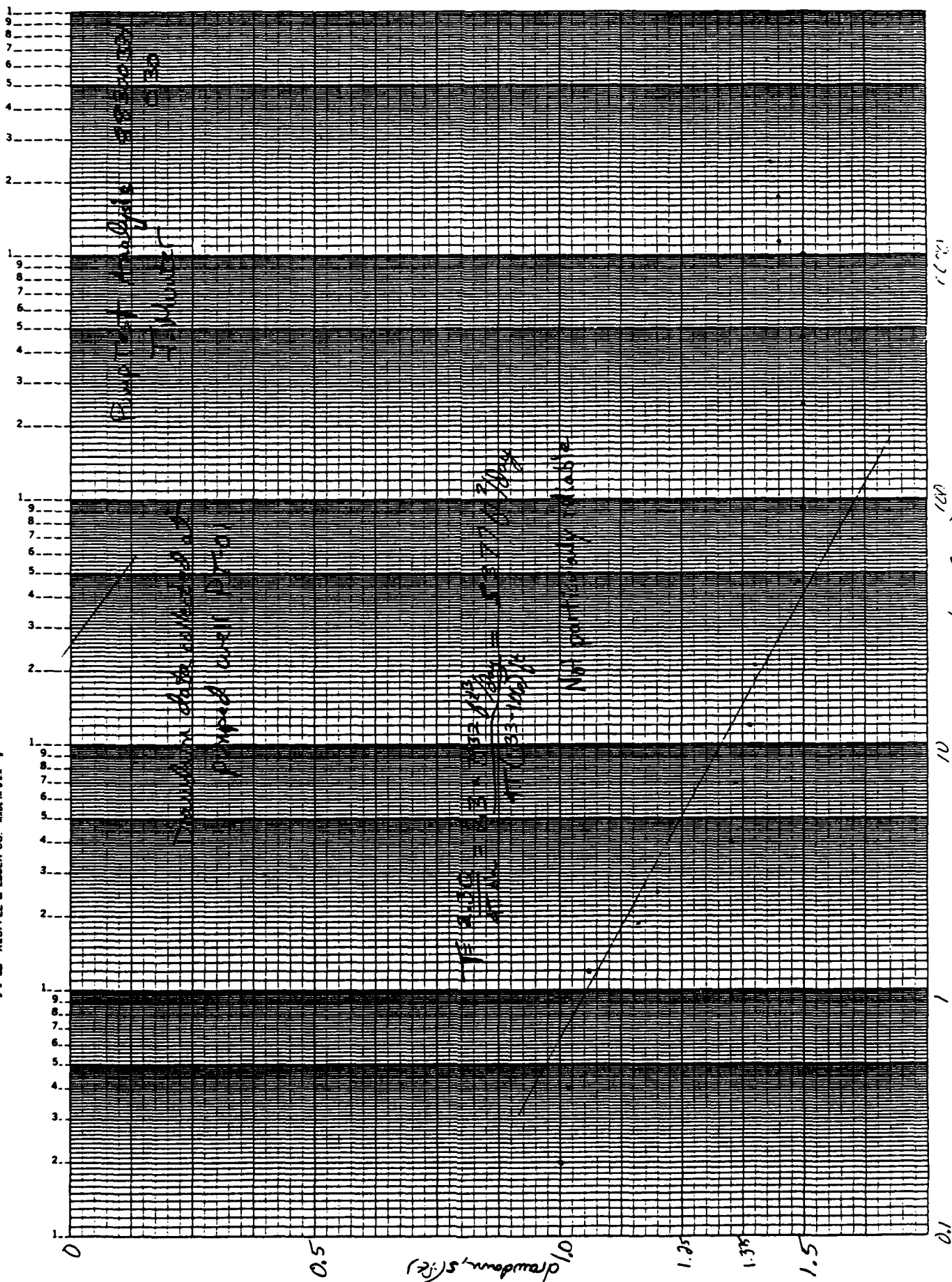
$$S = \frac{0.3 T t}{r_0^2} = 0.3 \times 48341 \text{ gpd/ft} \times \frac{0.347 \text{ days}}{100 \text{ ft}} = 0.503$$

$$u = \frac{r^2 S}{4 T t} = \frac{(79.2)^2 \times 0.5}{4 \times 6463 \times 0.347} = 0.35 \Rightarrow \text{Analysis no good.}$$

(not even close)

Since data @ PT04 @ $t > 600 \text{ min}$ is affected by

delayed yield or recharge from the rainstorm, distance
drawdown analysis is not possible.



Subject Pump Test - Recovery analysis

Project No. 88303A

By J. Munter

Checked By

Task No. 0130

File No. PT01

Date 11-8-88

Date

Sheet _____ of _____

Calculated Recovery - Pumped well

$$T = \frac{264 \times Q}{\Delta S} = \frac{264 \times 41.2}{1.27 - 1.175} = 114,493 \text{ gpd/ft} = 15,306 \text{ ft}^3/\text{day}$$



46 6210

0.5

1.0

1.25
1.30
1.35
1.375
1.40
1.425
1.45
1.5

01 . . . 1001

Estimation of groundwater velocity using Darcy's Equation:

$$V = (K \cdot dH/dL) / n$$

where: V- groundwater velocity

K- hydraulic conductivity

dH/dL- hydraulic gradient

n- porosity

ELMENDORF AFB
CALCULATION OF GROUNDWATER VELOCITY AND TRAVEL TIME
7/17/89 DJE

REPORT SECTION NO. (4.1.X)	SITE NUMBER	CONDUCT.* (ft/day)	GRADIENT* (ft/mile)	DIST TO RECEPTOR (feet)	VELOCITY (ft/day)	TRAVEL TIME (days)
1	D-3	0.24	130	2400	0.02	101538
2	D-5	300	20	5200	4.55	1144
3	D-7	300	20	5200	4.55	1144
4	D-13	300	20	5200	4.55	1144
5	D-15	NO ESTIMATE	50	800	NO ESTIMATE MADE	
6	D-16	WIDE RANGE		SURF H2O		SURF H2O
7	D-17	0.053	50	4500	0.00	2013559
8	IS 1-8					
	IS-1 thru IS-4	300	5	5000	1.14	4400
	IS-5, IS-6	300	10	SOIL AND SURF H2O	2.27	INGEST OR SURF H2O
	IS-7, IS-8	300	45	4000	10.23	391
9	S-6	NO ESTIMATE MADE		SOIL AND SURF H2O		SOIL AND SURF H2O
10	SP-1	30	1000	500	22.73	SOIL OR SURF H2O
11	SP-2, SP-6	300	130	600	29.55	20
12	SP-4	300	60	500	13.64	37
13	SP-7, 10	300	20	4000	4.55	880
13	SP-7, 10	300	20	3000	4.55	660
14	SP-11	300	60	500	13.64	37
14	SP-11	300	60	3000	13.64	220
15	SP-12	340	25	5000	6.44	776
15	SP-12	340	25	2200	6.44	342
16	SP-13	300	15	SOIL AND SURF H2O	3.41	SOIL OR SURF H2O
17	SP-14	300	60	2000	13.64	147
17	SP-14	300	60	4000	13.64	293
18	SP-15	300	15	4000	3.41	1173
18	SP-15	300	15	2000	3.41	587
19	NS-1	STREAM	50	SURF H2O		SURF H2O
20	SP-5, 5A	0.053	NOT EST.		NO ESTIMATE MADE	
21	NS-2	300	20	5200	4.55	1144
22	NS-3	300	250	500	56.82	9
22	NS-3	300	250	500	56.82	9

* Cals for Worst case travel time - max conductivity and gradient ~~are~~ used when range given in text.

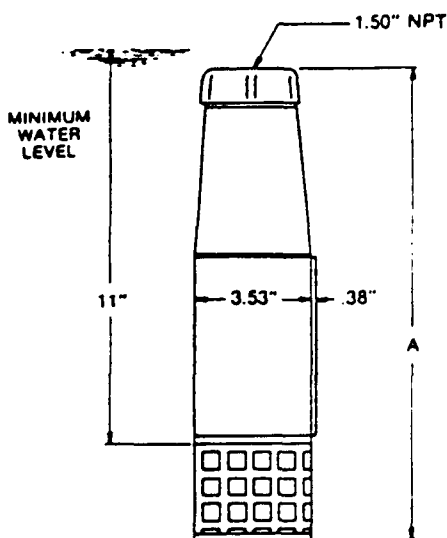
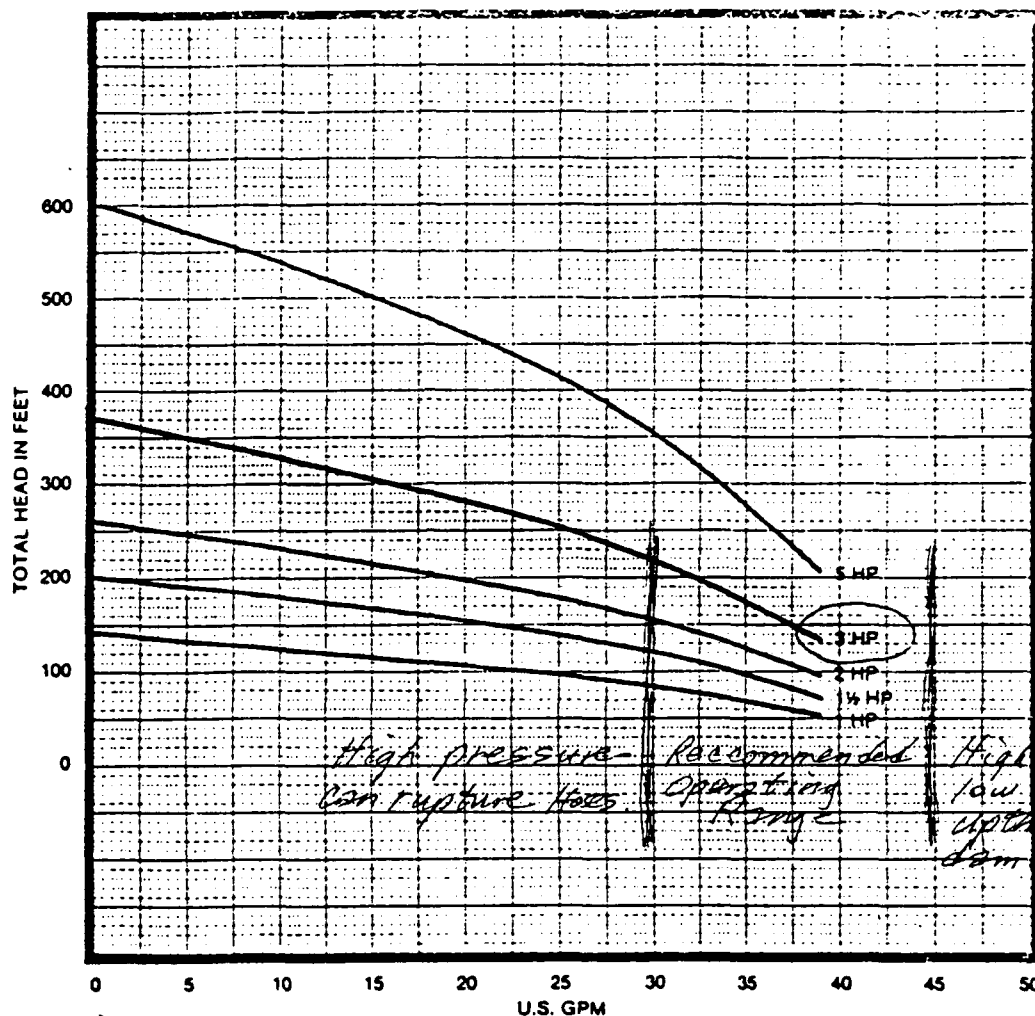
Eff. Porosity used was 0.25 (within the range for sand and gravel).

4XLS
3411

3450
RPM

30
GPM

1 1/2" PIPE



DIMENSIONAL DATA

MODEL	MOTOR RATING	STAGING	NOMINAL MOTOR DIAMETER	LENGTH A
4XLS	1 HP	5 STAGES	4"	18.19"
	1 1/2 HP	7 STAGES	4"	21.69"
	2 HP	9 STAGES	4"	25.19"
	3 HP	13 STAGES	4"	32.13"
	5 HP	21 STAGES	4"	46.19"

BASKI WATER INSTRUMENTS, INC.
1586 S. Robb Way; Denver, CO 80226

2" x 1 1/4" Orifice Cap

Note:

Orifice tube
must be level.
Read manometer
level referenced
from center of
2" orifice tube.

$$Q = KAV\sqrt{2gh} = 8.02 KAV\sqrt{h}$$

$$Q = 8.02 (.612) 1.227\sqrt{h}$$

$$\underline{Q = 6.022\sqrt{h}}$$

Q = Discharge in gpm

A = Orifice area, in² = $\pi (.625)^2 = 1.227$

h = Head in inches

K = from Layne & Bowler curve

$$R = \frac{\text{Orifice dia.}}{\text{Pipe dia. (Sch. 40)}} = \frac{1.25}{2.067} = .605$$

$$K = .612$$

<u>Head</u> <u>inches</u>	<u>GPM</u>	<u>Head</u> <u>inches</u>	<u>GPM</u>	<u>Head</u> <u>inches</u>	<u>GPM</u>
5	13.5	27	31.3	49	42.1
6	14.8	28	31.9	50	42.6
7	15.9	29	32.4	51	43.0
8	17.0	30	33.0	52	43.4
9	18.1	31	33.5	53	43.8
10	19.0	32	34.1	54	44.3
11	20.0	33	34.6	55	44.7
12	20.9	34	35.1	56	45.1
13	21.7	35	35.6	57	45.5
14	22.5	36	36.1	58	45.9
15	23.3	37	36.6	59	46.3
16	24.1	38	37.1	60	46.6
17	24.8	39	37.6	61	47.0
18	25.5	40	38.1	62	47.4
19	26.2	41	38.6	63	47.8
20	26.9	42	39.0	64	48.2
21	27.6	43	39.5	65	48.6
22	28.2	44	39.9	66	48.9
23	28.9	45	40.4	67	49.3
24	29.5	46	40.8	68	49.7
25	30.1	47	41.3	69	50.0
26	30.7	48	41.7	70	50.4

R. Dugan

NOTE: Leaks at joints & punctures in hose total about 1/3 gpm

PUMP/RECOVERY TEST DATA #3

PAGE 1 OF 2

INSTALLATION ID 0087 ELM

LOCATION ID DISCHARGE POINT
240 ft North West of AT-01

LOG DATE 24 Aug 88

START TIME
1426

bore

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
1	3.00 (ft)	36.1 (chart)		
5	3.00 ± .05	36.1 (chart)	} not accurate	
9	3.00 ± .05	36.1 (chart)		
16	55.84 gal leaked in 27 sec	41.18 gpm		
40	3.00 ± .05	36.1 (chart)	← Use This, instead of 36.1	
78	3.00 ± 0.02	41.2	adjusted flow upward from ~295	
(HRS) 97 (ET)	3.00 ± 0.02	41.2 + leakage		
1753/216	3.00 ± 0.02		adjusted flow slightly (was ~2.98)	
1825	3.00 ± 0.02		adjusted flow slightly (was ~3.02)	
1852	3.00 ± 0.02			
1922	3.00 ± 0.02			
2013	3.00 ± 0.02			
2103	3.00 ± 0.03		adjusted flow (was ~3.05)	
2152	3.00 ± 0.03			
2242	3.00 ± 0.02			
2332	3.00 ± 0.02			
0022	3.00 ± 0.02			
0102	3.00 ± 0.02			
0242	3.00 ± 0.02			
0322	3.00 ± 0.03			
0702	3.00 ± 0.02		only started	
0856	3.00 ± 0.02			
0902	3.00 ± 0.05			
Pump down for 42 sec @ 0938 for oil check				
0941	3.00 ± 0.02			

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since

PUMP/RECOVERY TEST DATA

PAGE 2 OF 2

INSTALLATION ID

LOCATION ID discharge print

LOG DATE 9-25-88 / 8-26-88

[illegible]

copied
from last
page

test = 1

PAGE 1 OF 5

LOCATION ID well #1 pump well

LOG DATE 24 AUG 85

PT-01

made probe to
north side of pump base

[illegible]

PUMP/RECOVERY TEST DATA ^{Test #} 3

Discharge point = 240 ft from this well towards Base OPs
(NW)

PAGE 3 OF 5

INSTALLATION ID ELM-0687

LOCATION ID PT-01

LOG DATE 8/24/88

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
Static 00.0	25.00			
12 sec	26.00			
30 sec	26.02			
50 sec	26.06			
1 min 10	26.06			
1.5 min	26.06			
1 min 50 sec	26.16			
2 min 10 sec	26.12			
2.5 min	26.20			
3.0 min	26.34			
3.5	26.36			
4.0	26.35			
4.5	26.35			
5.0	26.34			
5.5	26.36			
6.0	26.34			
7.0	26.36			
8.0	26.37			
9.0	26.37			
10.0	26.36			
12.0	26.39			
15.0	26.40			
18.0	26.40			
21.0	26.40			
24.0	26.40			
27.0	26.40			
30.0	26.38			
35.0	26.38			
40:30 sec	26.52.49			

417

PUMP/RECOVERY TEST DATA

PAGE 4 OF 5

INSTALLATION ID ELM-D687
LOCATION ID PT-01

LOG DATE 8/24/88 - 8/26/88

PUMP TEST			PUMP RECOVERY TEST	
ELAPSED TIME (MIN)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN)	DEPTH TO WATER (FT)
46.0 min	26.49		1282 1139 (1135)	26.43
51 min 30 SEC	26.485		1282 1139 (1125)	26.45
55 min	26.49		1284 1140 (1126)	26.48
60 min 30 SEC	26.49		1285 1141 (1127)	26.47
71	26.5		1392 1328 (1131)	26.47
81 :35	26.48		1495 1501 (1127)	26.455
92:30	26.50		1590 1646 (1132)	26.485
101:00	26.5		1725 1701 (1127)	26.45
113	26.495		1841 2100 (1134)	26.41
120	26.5	time min ↓	1841 2300 (1134)	26.45
1652 (158 min)	26.5	1551 • 2084 ←	2026 0100 (1126)	26.395
1722 (169)	26.505	195 2204 ←	2026 0300 (1126)	26.40
1752 (218)	26.51	215 2324 ←	2026 0700 (1126)	26.435
1820 (246)	26.50	243 2440 ←	2026 0700 (1126)	26.43
1850 (276)	26.505	273		
1920 (306)	26.51	303		
42010 (356)	26.51	353		
2100 (406)	26.51	403		
2150 (456)	26.50	453		
2240 (506)	26.495	503		
2330 (556)	26.515	553		
0020 (606)	26.50	603		
010200 (656)	26.495	703		
0340 (706)	26.50	803		
0520 (756)	26.50	903		
0700 (806)	26.50	1003		
0940 (856)	water level indicator not H163 working - went to get batteries			
1122 (922)	26.5	1271		
11 (925)	26.5	1280		

PUMP/RECOVERY TEST DATA

PAGE 5 OF 5

INSTALLATION ID ELM 0657
 LOCATION ID PT 028
01

LOG DATE 8/26/88

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
0	26.43		51	25.075
0:13	25.26		56:04	25.08
0:30	25.18		62:45	25.08
1:00	25.16		70:30	25.08
1:30	25.165		80:00	25.08
2:00	25.15		90:00	25.07
2:30	25.135		101	25.075
3:00	25.135		121	25.055
3:30	25.135		153	25.04
4:00	25.135		180	25.05
5:00 4:30	25.135		180	25.045
5:00	25.135		210	25.05
5:30	25.145		225	25.04
6:00	25.155		pump removed	
6:30	25.135		230	25.035
7:00	25.14		231	25.03
7:30	25.145		231	25.035
8:00	25.15		240	25.03
10:00	25.15		270	25.025
12:00	25.145		300	25.025
15:00	25.15		323	25.02
18:00	25.135		382	24.99
21:00	25.13		383	25.00
24:00	25.125			
27:00	25.125			
30:00	25.115			
35:00	25.005	?		
40:00				
40:34	25.08			
46:00	25.09			

QA - reading to needle pegged to 1.2

center or
mark

See Bar

measure mark - west side pvc
top of pvc = 0.25' below top of steel casing
TOSX = 2.68' above concrete pad
concrete pad = 0.65' above ground surface

INSTALLATION ID ELM 0687
LOCATION ID pump test well #4

LOG DATE 8-24-88

well located $\frac{79.2}{67.2}$ ft west of pumped well

[illegible]

PUMP/RECOVERY TEST DATA

PAGE 2 OF 4

INSTALLATION ID ELM 0687

LOCATION ID PT04

LOG DATE 8-24-88

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
1328	25-0.14			
1329	25-0.13			
1330	25-0.12			
1331	25-0.12			
1332	25-0.12	NO DATA COLLECTED @ TEST 1		
11 sec	25-0.12			
39 sec	25-0.13			
1 min	25-0.12			
1:28	25-0.12			
1:38	25-0.12			
2:43	25-0.12			
3:12	25-0.11			
3:47	25-0.12			
4:45	25-0.11			
5:14	25-0.12			
6:00	25-0.10			
6:30	25-0.11			
7:00	25-0.12			
9:05	25-0.11			
9:53	25-0.12			
17:11	25-0.12			
19:38	25-0.10			
20:18	25-0.			
25:25	25-0.11			
33:38	25-0.14	2 1415:21 42 00 139321		
38:47	25-0.13			
40:00	25-0.13			
2:15:21 = 42:00				

STATIC ↓

TEST #2

shut pump @ 17:20

PUMP/RECOVERY TEST DATA

J. Munter

PAGE 3 OF 4

INSTALLATION ID ELM 0687

LOCATION ID PT04

LOG DATE 8/24/88 - 8/24/88

TEST # 3 Measuring point =
Black marker on SW side of PVC casing PUMPING

Start
Time
14:16:48

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN)	DEPTH TO WATER (FT)
07 sec	25 - 0.12	41.2	185.31	25 - 0.07
35 sec	25 - 0.13	↓	550PM 1750 213.47	25 - 0.07
1:05	25 - 0.13		1820 / 244.06	25 - 0.06
1:38	25 - 0.13		1851 274	24.93
2:00	25 - 0.13		1921 304	24.95
2:36	25 - 0.12		2012 355	24.98
3:00	25 - 0.12		2101 409	24.96
3:35	25 - 0.10		2151 454	24.98
3:57	25 - 0.11		2242 505	24.98
4:36	25 - 0.10		2332 555	24.98
5:00	25 - 0.11		0021 609	24.96
5:30	25 - 0.10		0202 705	24.96
6:00	25 - 0.10		0342 805	24.95
7:10	25 - 0.10		0522 905	24.95
8:00	25 - 0.09		0702 1005	24.95
9:17	25 - 0.10		0914 1137	24.95
10:17	25 - 0.10		1111 1255	25 - 0.05
12:00	25 - 0.11		1325 1388	25 - 0.04
16:42	25 - 0.10		1459 1482	25 - 0.025
20:50	25 - 0.09		1653 1596	25 - 0.03
33:17	25 - 0.095		1901 1724	24.97
38:33	25 - 0.1		2102 1845	24.99
46:35	25 - 0.1		2302 1965	24.96
56:40	25 - 0.09		0002 2085	24.96
72:35	25 - 0.08		0302 2225	24.98
84:48	25 - 0.085		0502 2325	24.97
103:00	25 - 0.08		0712 2445	24.97
111	25 - 0.09		0723 2466	24.98
125:12	25 - 0.10			
155:34	25 - 0.07			

77 sec
55 gal
flow check

PUMP/RECOVERY TEST DATA

PAGE 4 OF 4

INSTALLATION ID 01087

LOCATION ID PT 04

LOG DATE 8/26/88

D.M.

RECOVERY DATA PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN)	DEPTH TO WATER (FT)
static	24.98		62:15	24.88
12 sec	24.98		70:44	24.865
47 sec	24.95		81:57	24.865
1 min 15 sec	24.96		100:49	24.845
1 min 50 sec	24.96		121:59	24.85
2 min 30 sec	24.96		152:12	24.85
3 min	24.95		171:16	24.85
3.5	24.95		210:44	24.83
4.0	24.94		212:19	24.845
4.5	24.94		213:02	24.842
5.0	24.94		213:18	24.84
5.5	24.94		273:19	24.835
6.0	24.94		307:18	24.825
6.5	24.94		324	24.82
7.0	24.93		384	24.81
8.0	24.93		385	24.82
9.0	24.93		386	24.80
10.0	24.93		387	24.81
12.0	24.92		pulled probe & log site @ 1415	
15.0	24.93			
18.0	24.93			
21.0	24.93			
24.0	24.93			
27.0	24.94			
30.0	24.93			
35:28-40	24.91			
40:25	24.87			
45:27	24.89			
51:16	24.89			
56:17	24.875			

30 min
5 min
1 min
↓

me sure work = south side PVC
top of PVC = 0.30 ft below top of steel casing
TOSC = 2.77 ft above concrete pad
concrete pad = 0.39 ft above ground surface

PUMP/RECOVERY TEST DATA

PAGE 1 OF 5

INSTALLATION ID ELM 0687
LOCATION ID well #2

LOG DATE 8-24-88

PT-03 14.9 ft west of pumped well

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN)	DEPTH TO WATER (FT)
close time 0921	24.915'	- 0 -		
0932	24.92	0		
1002	24.93			
1016	24.93			
1030	24.94			
1038	24.93			
1055	24.91	0		
1117	24.92			
1131	24.91			
1146	24.91			
1201	24.91			
1216	24.92			
1218	24.915	0		
30 sec	25.025			
1 min	25.03			
2 min	25.05			
3 min	25.055			
4.0 min	25.065			
5.0 min	25.070			
6.0 min	25.080			
7.0 min	25.080			
8.0 min	24.97	pump off		
9.0 min	24.965			
10.0 min	24.940			
11.0 min	24.945			
12.0 min	24.945			
13.0 min	24.940			
14.0	24.935			
15.0	24.935			
16.0 23	24.927			

STATIC
PRE-ANNUE

TEST
#1

PAGE 42 OF 5

LOG DATE 8-24-82

WELL #2

TEST #2

[illegible]

PUMP/RECOVERY TEST DATA # 3

PAGE 3 OF 5

INSTALLATION ID 0687
LOCATION ID PT-03

LOG DATE 8-24-88

Well # 2 TEST # 3

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
static 00.0	24.920			
10 sec	25.010			
37 sec	25.025			
1.0 min	25.027			
1 min 20 sec	25.030			
1 min 40 sec	25.045			
2.0 min	25.050			
2 min 20 sec	25.050			
2 min 40 sec	25.052			
3.0 min	25.055			
3.5	25.060			
4.0	25.071			
4.5	25.073			
5.0	25.082			
5.5	25.081			
6.0	25.087			
7.0	25.089			
8.0	25.091			
9.0	25.093			
10.0	25.096			
12.0	25.099			
15.0	25.108			
18.0	25.110			
21.0	25.115			
24.0	25.123			
27.0	25.125			
30.0	25.123			
35.0	25.135			
40-039:50	25.138			
45.0 min	25.145			

14:16:48
2:16:48

PUMP/RECOVERY TEST DATA

PAGE 42 OF 5

INSTALLATION ID 0687
LOCATION ID PT-03

LOG DATE 8/24/88 - 8/26/88

TEST # 3

Pump

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
50 min 27 SEC	25.143'		1651/1594	25.23
55 min	25.150		1903/1725	25.23
60 min 12 SEC	25.155	drizzle	2000/1845	25.24
71:40	25.17		2500/1963	25.235
92:30	25.18		3100/2085	25.235
91:00	25.18		3300/2205	25.245
102:00	25.17		3502/2325	25.24
124:00 110:30	25.18		3700/2445	25.245
117	25.19		0725/2465	25.245
1653 156	25.2			
1722 185	25.245	pump off	0728:56	
1753 216	26.20			
1820 243	25.22			
1851 274	25.195			
1921 305	25.205			
2002 355	25.21			
2100 403	25.205			
2151 454	25.205			
2242 505	25.23			
2332 555	25.225			
2422 605	25.23			
2502 705	25.23			
2642 805	25.22			
2752 905	25.225			
2800 1003	25.23			
2910 1135	25.25			
3011 1253	25.25			
3123 1386	25.28			
3259 1482	25.24			

H10
114=
4:20:48pm
JM watch
(start time
- 1417)

REC'D
HENRY
KIM

PUMP/RECOVERY TEST DATA

PAGE 5 OF 5

INSTALLATION ID ELWA 0687

LOCATION ID Pump 2000 - 1000 - 1000

LOG DATE 8/20/88

RECOVERY DATA

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN)	DEPTH TO WATER (FT)
00	25.16		69:47	24.97
20	25.14	90 min (ET) = 8:59:46	79:46	24.824.98
1:55	25.13		98:57	24.985
1:07	25.12		120:42	24.98
1:31	25.12		149:39	24.965
1:58	25.11		179:40	24.96
2:22	25.10		209:08	24.96
2:42	25.10		240:00	24.955
3:05	25.095		270:17	24.96
3:39	25.09		27300:00	24.95
4:01	25.09		322	24.95
4:26	25.09		380	24.945
5:02	25.09		381	24.94
5:57	25.08		382	24.94
6:00	25.075			
6:00	25.07			
10:06	25.055			
12:00	25.05			
15:00	25.045			
18:00	25.04			
21:00	25.03			
24:00	25.025			
27:00	25.025			
30:00	25.02			
34:45	25.01			
40:00	25.015			
45:54	25.01			
50:00	25.005			
55:00	25.002			
61:00	25.00			

16.6 ft south of pump well

PUMP/RECOVERY TEST DATA

PAGE 1 OF 5

INSTALLATION ID FLM 0687

LOCATION ID Well #3
GW-3A

LOG DATE 8-24-88

Measure mark - west side PVC
top of PVC = 0.63 ft below top of steel casing
TDS = 1129 ft above concrete pad
concrete pad = 0.37 ft above ground surface

Test #1

Hand pump - 04

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
0913	23.045'	0		
0942	23.04			
1004	23.06			
1018	23.04			
1043	23.040	0		
1056	23.04			
1115	23.04			
1133	23.035			
1146	23.03			
1204	23.03			
1218	23.03			
Pump on	23.06	44		
30	23.06			
60	23.065			
2:00	23.08			
3:00	23.085			
4:00	23.09			
5:00	23.09			
6:00	23.095			
7:00	23.11			
8:00	23.11			
—	23.04			
9:00	23.04			
10:00	23.02			
11:00	23.02			
12:00	23.02			
13:00	23.015			
14:00	23.015			
15:00	23.015			
23:00	23.01			

PAGE 2 OF 5

LOCATION ID GW-3A

LOG DATE 8-24-88

[illegible]

PUMP/RECOVERY TEST DATA

PAGE 3 OF 5

INSTALLATION ID ELM 0687

LOCATION ID GW-3A

LOG DATE 8-24-88

Test #3
Starting time = 1416

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
1416	23.05			
5 ^{sec} 1416.48	23.09			
21	23.10			
38	23.11			
56	23.12			
1:16 min	23.12			
1:43	23.12			
2:10	23.13			
2:47	23.135			
3:17	23.14			
3:53	23.145			
4:35	23.15			
5:05	23.155			
5:33	23.155			
6:01	23.16			
6:59	23.17			
7:54	23.17			
8:57	23.17			
10:01	23.18			
12:00	23.18			
15:06	23.185			
17:56	23.20			
21:00	23.205			
24:00	23.205			
26:51	23.21			
30:00	23.21			
35:00	23.25			
39:50	23.275			
44:54	23.28			
50:32	23.25			

PUMP/RECOVERY TEST DATA

PAGE 4 OF 5

INSTALLATION ID ELM 0687

LOCATION ID GW-3A

LOG DATE 8-24-88-8/26/88

Pump

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
54:56	23.24		691 1648 12085	23.305
60:24	23.26		1123 1900 12085	23.36
70:00	23.27		1843 2100 12085	23.38
80:24	23.29		1963 2300 12085	23.35
90:31	23.29	2083	2083 0100 8/26	23.39
100:00	23.25		2203 0300 12085	23.37
104	23.25		2323 0500 12085	23.36
110	23.25		2443 0700 12085	23.35
120	23.26	Elapsed time (min) ↓		
1651 150 min	23.265	154		
1722 192 min	23.26	185		
1750 210 min	23.275	213		
1820 240 min	23.26	243		
1850 270 min	23.285	273		
1920 300 min	23.29	303		
2010 350 min	23.29	353		
2100 400 min	23.29	403		
2150 450 min	23.25	453		
2240 500 min	23.31	503		
2330 550 min	23.31	553		
0020 600 min 8/25	23.315	603		
0200 700 min	23.31	703		
0340 800 min	23.31	803		
0520 900 min	23.28	903		
0700 1000 min	23.32	1003		
0906 1100 min	23.32	1129		
1104 1200 min	23.325	1251		
1320 1400 min	23.32	1383		
1455 1500 min	23.32	1479		
1900	23.30			

1240
1320
1340

PUMP/RECOVERY TEST DATA

PAGE 5 OF 5

INSTALLATION ID 2Lm 0687

LOCATION ID GW-3m

LOG DATE 8-26-88

Recovery

PUMP TEST			RECOVERY TEST	
ELAPSED TIME (MIN)	DEPTH TO WATER (FT)	PUMPING RATE (GAL/MIN)	ELAPSED TIME (MIN)	DEPTH TO WATER (FT)
0725 ^{2590m}	23.33		50:19	23.115
pump shut-off			55:27	23.11
5	23.27		61:43	23.11
33	23.24		69:49	23.105
56	23.23		80:00	23.10
1:14	23.225		89:00	23.09
1:36	23.22		100	23.095
2:01	23.21		120 min	23.08
2:25	23.20		149	23.08
2:50	23.20		179	23.065
3:18	23.20		208	23.06
3:46	23.195		240	23.05
4:13	23.195		269	23.05
4:58	23.19		399	23.055
5:32	23.18		422	23.04
6:08	23.18		4380	23.03
7:00	23.18		Pulled probe & left site @ 1915	
8:01	23.17			
9:00	23.17			
10:04	23.175			
12:00	23.16			
15:04	23.16			
18:05	23.15			
20:53	23.145			
23:51	23.14			
27:00	23.135			
30:00	23.135			
34:38	23.13			
39:44	23.13			
45:51	23.12			

Slug Test Data

BUG TEST DATA

INSTALL FROM ELM 0687

LOCATION: D3-02 (002)

LOGGER COL: QA Jim

TEST METHOD ✓ PLUG INJECTION OR

COMME: is measure ~~the~~ side PVC

top of A/C = 0.32 ft below TOSC

$T_{OSC} = 1.2 \text{ ft above concrete pad} - \text{pad} = 0.4 \text{ ft above ground surface}$

LOG DATE 8-11-88

SLUG VOLUME (FT³) 0.0426

✓ SLUG WITHDRAWAL

ELAPSED TIME (MIN)	DEPTH TO WATER (FT)
1415	20 + 0.02
1416	20 + 0.02
1421	20 + 0.06
1421	20 + 0.06
1422	20 + 0.06
1427	20 + 0.05
1428	20 + 0.29
1428	20 + 0.29
1429	20 + 0.28
action	
sec	20 - 0.55
16	20 - 0.49
30	20 - 0.49
40	20 - 0.48
1:03	20 - 0.46
1:18	20 - 0.47
1:45	20 - 0.45
2:08	20 - 0.46
2:33	20 - 0.45
withdrawal	
8 sec	20 - 0.35 and
23	20 + 1.19
42	20 + 1.12
58	20 + 0.96
1:26	20 + 0.79
1:48	20 + 0.72
2:10	20 + 0.67
2:26	20 + 0.64

[illegible]

SLUG TEST DATA

TOSC = top of steel casing

INSTALLATION ID 91m-887

LOCATION ID DE-W1 Dames & Moore

LOGGER CODE DA S.M.

TEST METHOD ✓ SLUG INJECTION OR

COMMENTS top of PVC to TDSC = 0.02 ft ; TDSC = 1.14 ft above
ground surface

LOG DATE 8-9-88

SLUG VOLUME (FT³) 0.0426

✓ SLUG WITHDRAWAL

[illegible]

could not get
probe past
slug at SW
and could
not get more
detailed info
during 1st
11 sec.

[illegible]

NO WCC 10-4466 sample
sample number =
number pk

61-1232

(con)

SLUG TEST DATA

INSTALLATION ID SLM 0861

LOCATION ID DS GW-1A - unconfirmed

LOGGER CODE 24 S.M.

TEST METHOD SLUG INJECTION OR SLUG WITHDRAWAL

COMMENTS 1" ID PVC top = 0.36 ft from TP, SO

TOSC = 2.95' above concrete base = ground surface

measuring pt on S. side at PVC casing

BLUE VOLUME (FT³) 2.0426

~~X~~ - SLUG WITHDRAWAL

7. T. 50

and surface

29.11.22

ELAPSED TIME (MIN)	DEPTH TO WATER (FT)
1500	40 + 1.75 = 41.75
1501	40 + 1.73 = 41.73
1501	40 + 1.74 = 41.74
1507	40 + 1.74 = 41.74
injection	
5 sec	40 + 1.72
22	40 + 1.74
41	40 + 1.75
60	40 + 1.75
withdrawal	
9 sec	40 + 1.72
37	40 + 1.76
40	40 + 1.76
reinserted slug	
withdrawal	
6	40 + 1.72
17	40 + 1.76
29	40 + 1.76
47	40 + 1.76
reinserted slug	
1521	40 + 1.75
withdrawal	
6 sec	40 + 1.72
20	40 + 1.77

[illegible]

687

DATE 5-10-88

LOCATION ID D7 GW-2C (014)

SLUG VOLUME (FT³) 0.0426

COMMENTS measuring at 1st side of PVC ~~from TO SC~~ PVC = 0.08' from TO SC

3.06 ft to TOSC above concrete = ground surface

2 inch ID on PVC casing slug hit bottom of hole

✓ casing
✓ wet, hard
to read

[illegible]

TOSS = Top of steel casing

INSTALLATION ID SLM 0867

LOCATION ID 013-01 (015)

LOGGER CODE MA J.M.

TEST METHOD ✓ SLUG INJECTION OR

COMMENTS top of PVC to TDSC = 0.21 ft

0.3ft pad above land surface

LOG DATE 8-9-88

SLUG VOLUME (FT³) 0.0426

✓ SLUG WITHDRAWAL

TOSC above pad = 2.87 ft

[illegible][illegible]

0687

TOSC = top of steel casing

INSTALLATION ID SLM-0867

LOCATION ID ~~012-017~~ 013-03(017)

LOGGER CODE 7A 5M

TEST METHOD SLUG INJECTION OR

COMMENTS measure spot-red-North side

top of PVC to TDSC = 0.20 ft; TDSC = 2.34 ft above concrete grade

concrete pad = 0.30 ft above ground surface

LOG DATE 8-9-88

SLUG VOLUME (FT³) 0.0426

1 SLUG WITHDRAWAL

[illegible]

V. Rapid recovery

[illegible]

SLUG TEST DATA

INSTALLATION ID ELM 0687

LOCATION ID 017 W-13 (032)

LOGGER CODE 218 D-7

TEST METHOD SLUG INJECTION OR

COMMENTS TOSC = 1.64 ft above ground & sur face - no concrete part

Top of PVC = 0.08 ft below top of steel casing

measure mark = east side PVL

LOG DATE 8-23-88

SLUG VOLUME (FT³) 0.0426

SLUG WITHDRAWAL

ELAPSED TIME (MIN)	DEPTH TO WATER (FT)
1524	14.99
1525	14.99
injection	
15 sec	13.80
31	13.85
49	13.88
1:02	13.905
1:14	13.925
1:30	13.94
1:45	13.945
2:00	13.955
2:25	13.96
3:00	13.985
3:25	13.99
4:00	14.05
4:30	14.06
5:00	14.08
5:30	14.0
6:00	14.1
6:30	14.1
7:00	14.12
7:30	14.13
8:00	14.145
8:30	14.165
9:00	14.17
9:30	14.175
10:00	14.195
16:00	14.355

Slugs caught water level probe

[illegible]

No Sample Assoc -

1 Test / pas

1 of 2

SLUG TEST DATA

= top of steel casing

INSTALLATION ID ELM 0687LOCATION ID D17 W-10LOG DATE 8-11-88LOGGER CODE QNA J.M.SLUG VOLUME (FT³) 0.0426TEST METHOD ✓ SLUG INJECTION OR SLUG WITHDRAWALCOMMENTS top of PVC = 0.40 ft below TOSCmeasuring pt S. side PVD TOSC = 1.2 ft above land surface

ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
1541	10 + 1.75
1542	10 + 1.74
1547	10 + 1.52 ?
1548	10 + 1.74
1549	10 + 1.72
1549	10 + 1.74
injection	
8 sec	10 + 0.10
19	10 + 0.12
29	10 + 0.27
40	10 + 0.38
50	10 + 0.38
1:03	10 + 0.45
1:16	10 + 0.50
1:26	10 + 0.55
1:33	10 + 0.59
1:43	10 + 0.63
2:04	10 + 0.67
2:26	10 + 0.75
2:32	10 + 0.80
2:46	10 + 0.81
3:02	10 + 0.88
3:18	10 + 0.89
3:33	10 + 0.94
3:47	10 + 0.97
4:19	10 + 1.04
5:00	10 + 1.10
6:00	10 + 1.19
7:18	10 + 1.26

wind?

1614 →

ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
8:19	10 + 1.36
9:07	10 + 1.40
10:13	10 + 1.44
12:18	10 + 1.49
13:45	10 + 1.35 ??
14:28	10 + 1.36
16:27	10 + 1.40
18:00	10 + 1.52
19:00	10 + 1.63
20:00	10 + 1.65
22:14	10 + 1.66
24:05	10 + 1.67
WITHDRAWAL	
1617	10 + 1.66
28 sec	15 - 1.65
59	15 - 1.83
1:22	10 + 3.0
1:45	10 + 2.93
2:10	10 + 2.83
2:33	10 + 2.57
2:47	10 + 2.61
3:05	10 + 2.55
3:22	10 + 2.46
3:48	10 + 2.54
4:05	10 + 2.48
4:38	10 + 2.32
4:56	10 + 2.33
5:25	10 + 2.25
5:52	10 + 2.08

SLUG TEST DATA

INSTALLATION ID ELM 0687

LOCATION ID D17 W-10

LOGGER CODE 217 S.M.

TEST METHOD _____ SLUG INJECTION OR

COMMENTS is well responding nicely

LOG DATE 8-11-88

SLUG VOLUME (FT³)

SLUG WITHDRAWAL

[illegible][illegible]

SLUG TEST DATA

INSTALLATION ID ELm 0687

LOCATION ID IS-4 (036)

LOGGER CODE 7H 0.Y

TEST METHOD ✓ SLUG INJECTION OR

COMMENTS flush mount

measure mark - east side PVC

top of PVC = 0.29 ft below ground surface

LOG DATE 8-23-88

SLUG VOLUME (FT³) 0.04126

SLUG WITHDRAWAL

der around weil

ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
1220	23.47
1220	23.46
1221	23.47
1226	23.45
injection	
5	23.40
16	23.45
31	23.45
42	23.45
53	23.45
WITHDRAWAL	
18	23.43
33	23.46
42	23.46
60	23.46
reinsert slug	
1231	23.45
5	23.43
15	23.44
23	23.44
34	23.44
38	23.45
48	23.45
60	"

[illegible]

TOCS = top of steel casing

✓ SLUG WITHDRAWAL

measuring pt = N side steel casing

~~< 0.5 ft of fluid in well annulus~~
Fluid level in annulus = 0.5 ft below top of PVC.

looks
like
water

[illegible]

wet, prob.
bad reading

SLUG TEST DATA

INSTALLATION ID ELM 0687

LOCATION ID ISP-8 (040)

LOGGER CODE 011 S.M

LOG DATE 8-10-88

SLUG VOLUME (FT³) 0.0426

TEST METHOD _____ SLUG INJECTION OR

____ SLUG WITHDRAWAL

COMMENTS top of Pile to TOSC = 0.63 ft

TOSC = 2.87 ft above concrete pad

red measuring mark of N side PVC

concrete pad 0.30 ft above ground surface

ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
0906	25-0.37 =
0906	25-0.38 =
0907	25-0.38 =
0916 0916	25-0.42 =
0917	25-0.40 =
0917	25-0.40 =
inserted slug	
5 sec	25-0.44 =
24	25-0.41 =
39	25-0.41 =
60	25-0.42 =
withdrawal	
14	25-0.57 =
37	25-0.48 =
51	25-0.46 =
1:11	25-0.45 =
1:22	25-0.42 =
1:42	25-0.43 =
reinserted slug	
0925	25-0.42
withdrawal	
9 sec	25-0.60
23	25-0.52
33	25-0.49
44	25-0.46
54	25-0.46
1:10	25-0.44
1:25	25-0.44
1:38	25-0.43

Poor reading
either
0.52 or
0.57

[illegible]

0.60
2.59
0.20

1 of 2

SLUG TEST DATA



INSTALLATION ID ELM 0687

LOCATION ID SP2-96-04(054)

LOG DATE 8-12-88

LOGGER CODE JH, JM

SLUG VOLUME (FT³)

TEST METHOD X SLUG INJECTION OR X SLUG WITHDRAWAL

COMMENTS 2" ID PVC tap M.P. = East side of pvc = 0.60' below top of steel casing =
2.59 ft above top of concrete pad which is 0.20 ft above land surface

J.H. first test

W.L. by
JH
static
Notes
by JM

ELAPSED TIME (MIN) SEC	DEPTH TO WATER (FT)
12:45	35+3.06
12:46	40-1.60
12:48	40-1.93
12:49	40-1.84
12:49:30	40-1.99
12:50	40-1.76
12:51	40-2.04
12:52	40-2.98
12:53	40-2.82
12:54	40-2.74
12:54:30	40-2.64
12:55	40-2.60
12:55:30	40-2.57
12:58:30	40-1.65
1:00:30	40-1.61
1:02	40-1.64
1:03	40-1.63
1:04	40-1.63
1:12:30	40-1.62
1:15	40-1.60
1:15:30	40-1.67
1:17:30	40-1.68
1:18	40-1.73
1:19	40-1.63
1:20	40-1.63
INSERT SLUG	
7 sec	40-1.69
21 sec	40-1.63
32 sec	40-1.64

(spacing
between tabs
35+40=4.95')

Train engine
went by @
12:54:30
300 ft away

JM does
water levels
↓

ELAPSED TIME SEC (MIN)	DEPTH TO WATER (FT)
48 sec	40-1.63
60 sec	40-1.63
Withdrawal	
8 sec	40-2.78
22 sec	40-1.92
37 sec	40-1.80
50 sec	40-1.84
1:11	40-1.62
1:28	40-1.62
1:40	40-1.65
END	
1:30 AM	40-1.74
1:30:30	40-1.73
1:31	40-1.64
1:31:30	40-1.63
1:32	40-1.65
INSERT SLUG	
6 sec	40-1.85
25 sec	40-1.65
41 sec	40-1.635
56 sec	40-1.63
1337	40-1.61
1338	40-1.63
Withdrawal	
13 sec	40-1.66
29	40-1.66
44	40-1.68
1:04	40-1.64
1:23	40-1.62

SLUG TEST DATA

INSTALLATION ID ELM 0657

LOCATION ID SP2/6 04 (054)

LOGGER CODE 2H J.N.

TEST METHOD SLUG INJECTION OR

COMMENTS

LOG DATE 8-12-88

SLUG VOLUME (FT³)

✓ SLUG WITHDRAWAL

[illegible]

closing
system

[illegible]

SLUG TEST DATA

TOC = top of ^{steel} casing

INSTALLATION ID GLM 0867

LOCATION ID SP5-02 (073)

LOG DATE 8-9-88

LOGGER CODE 4th JM

SLUG VOLUME (FT³) 0.0426

TEST METHOD X

SLUG INJECTION OR

SLUG WITHDRAWAL

COMMENTS measure pt N side of PVC casing - Marked w/ red pen

0.30 ft' to TOC from PVC 1.93' and to TOC^(steel) 0.30 ft' - ground to pad

measure to middle of yellow tab

water level indicator
water marker
Johnson Div WOP

ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
0911	20 + 2.25 = 22.25
0913	20 + 2.24 = 22.24
0914	20 + 2.24 = 22.24
0923	20 + 2.23 = 22.23
0923	20 + 2.24 = 22.24
injection	
9 sec	20 + 1.41 = 21.41
29	20 + 1.66 = 21.66
40	20 + 1.71 = 21.71
57	20 + 1.79 = 21.79
1:10	20 + 1.85 = 21.85
1:21	20 + 1.87 = 21.87
1:35	20 + 1.90 = 21.90
1:45	20 + 1.95 = 21.95
2:02	20 + 1.98 = 21.98
2:14	20 + 1.99 = 21.99
2:29	20 + 2.01 = 22.01
2:50	20 + 2.05 = 22.05
3:15	20 + 2.04 = 22.04
3:40	20 + 2.04 = 22.04
4:23	20 + 2.09 = 22.09
4:45	20 + 2.09 = 22.09
5:35	20 + 2.11 = 22.11
6:12	20 + 2.14 = 22.14
7:00	20 + 2.13 = 22.13
recalibrate w/ slug in	
0941	20 + 2.12 = 22.12
0944	20 + 2.15 = 22.15
0945	20 + 2.18 = 22.18

0953

ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
0946	22.18
0949	20 + 2.06 = 22.06
0950	20 + 2.12 = 22.12
0950	20 + 2.18 = 22.18
0951	20 + 2.16 = 22.16
withdrawal	
16 sec ?	20 + 2.47 = 22.47
30 ?	20 + 2.44 =
44 ?	20 + 2.52 =
60	20 + 2.48 =
1:20	20 + 2.47 =
1:40	20 + 2.47 =
slug back in	
0955	22.00
0955	22.05
0956	20 + 2.17 = 22.17
2 sec	20 + 2.80 = 22.80 (held)
18	22.53
29	20 + 2.53 = 22.53
49	20 + 2.47 = 22.47
1:02	20 + 2.51 = 22.51
1:20	20 + 2.50 = 22.50
1:45	20 + 2.47 = 22.47
2:08	20 + 2.42 = 22.42
2:20	20 + 2.42 = 22.42

slug got caught up on
probe after removal,
but slug back in

SLUG TEST DATA

INSTALLATION ID ELM 0687

LOCATION ID SP4-01W 1063

LOGGER CODE 214 S.M.

TEST METHOD SLUG INJECTION OR SLUG WITHDRAWAL

COMMENTS measure of W side of PVC casing

top of PVC = 0.26 ft below TOSC TOSC = 2.74 ft above concrete pad

0.3 ft top of concrete pad to land surface

[illegible][illegible]

SLUG TEST DATA

INSTALLATION ID ELM 0687

LOCATION ID SP 5-06 (077)

LOG DATE 8-5-88

LOGGER CODE JM + JH

SLUG VOLUME (FT³) C.01625

TEST METHOD _____ SLUG INJECTION OR $\frac{x}{x}$ SLUG WITHDRAWAL

COMMENTS 2' I.D. - 0.38 ft below top of steel casing

2.60 ft to bottom of exposed reserve

1535 - 34.90 ft: 1536 - 34.91: 1537 - 34.905:

[illegible][illegible]

of point on north side marked Meridian N-3

Start under
leaf/fronds

0687

TOSC = top of steel casing

INSTALLATION ID ELM 0867

LOCATION ID SPS-07 (078)

LOG DATE 8-9-88

LOGGER CODE 9A 9M

SLUG VOLUME (FT³) 0.0426

TEST METHOD _____ SLUG INJECTION OR _____ SLUG WITHDRAWAL

COMMENTS measuring mark - red - N side PVC; 0.43 top of PVC to TOSC;

2.92' pad to TDSC' - concrete pad 0.30' above ground surface

ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
1027	35-0.33 = 34.67
1028	35-0.33 = 34.67
1029	35-0.33 = 34.67
injection	35-0.27 =
1040	35-0.27 = 34.73
1041	35-0.24 = 34.76
1041	35-0.25 = 34.76
1042	35-0.26 = 34.74
1041	35-0.26 = 34.76
injection	1.76
8 sec	35- 1.76 = 33.24
23	35- 0.58 = 33.42
46	35-1.37 = 33.63
1:03	35-1.32 = 33.68
1:24	35-1.21 = 33.79
1:48	35-1.19 = 33.81
2:03	35-1.06 = 33.94
2:31	35-0.97 = 34.03
2:52	35-0.91 = 34.09
3:14	35-0.87 = 34.13
3:33	35-0.81 = 34.19
3:50	35-0.77 = 34.23
4:15	35-0.71 = 34.29
4:32	35-0.68 = 34.32
5:08	35-0.63 = 34.37
5:45	35-0.58 = 34.42
8:00	35-0.46 = 34.54
10:00	35-0.40 = 34.60
12:00	35-0.33 = 34.67

[illegible]

SLUG TEST DATA

INSTALLATION ID SLM 0867

LOCATION ID SPS-08 (079)

LOG DATE 8-8-88

LOGGER CODE 1# & 9.M

SLUG VOLUME (FT³) 0.0426/ft³

TEST METHOD X SLUG INJECTION OR X SLUG WITHDRAWAL

COMMENTS 2.36 to top of casing to measuring point on 1) side of casing
2.36 to top of casing from concrete pad - concrete pad 0.4 ft above
ground surface

73 ft OR 70 ft
water level indicator

ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
1454	16.26
1455	16.255
1456	16.245
1457	16.245
1457	16.255
injection	
10 sec	16.08
26	16.085
40	16.09
60	16.105
1:15	16.11
1:33	16.112
1:52	16.112
2:25	16.115
2:47	16.12
3:37	16.125
4:32	16.13
5:45	16.135
6:33	16.14
7:50	16.14
8:44	16.145
9:30	16.15
11:00	16.16
13:22	16.16
14:40	16.165
16:00	16.165
17:56	16.17
18:40	16.17

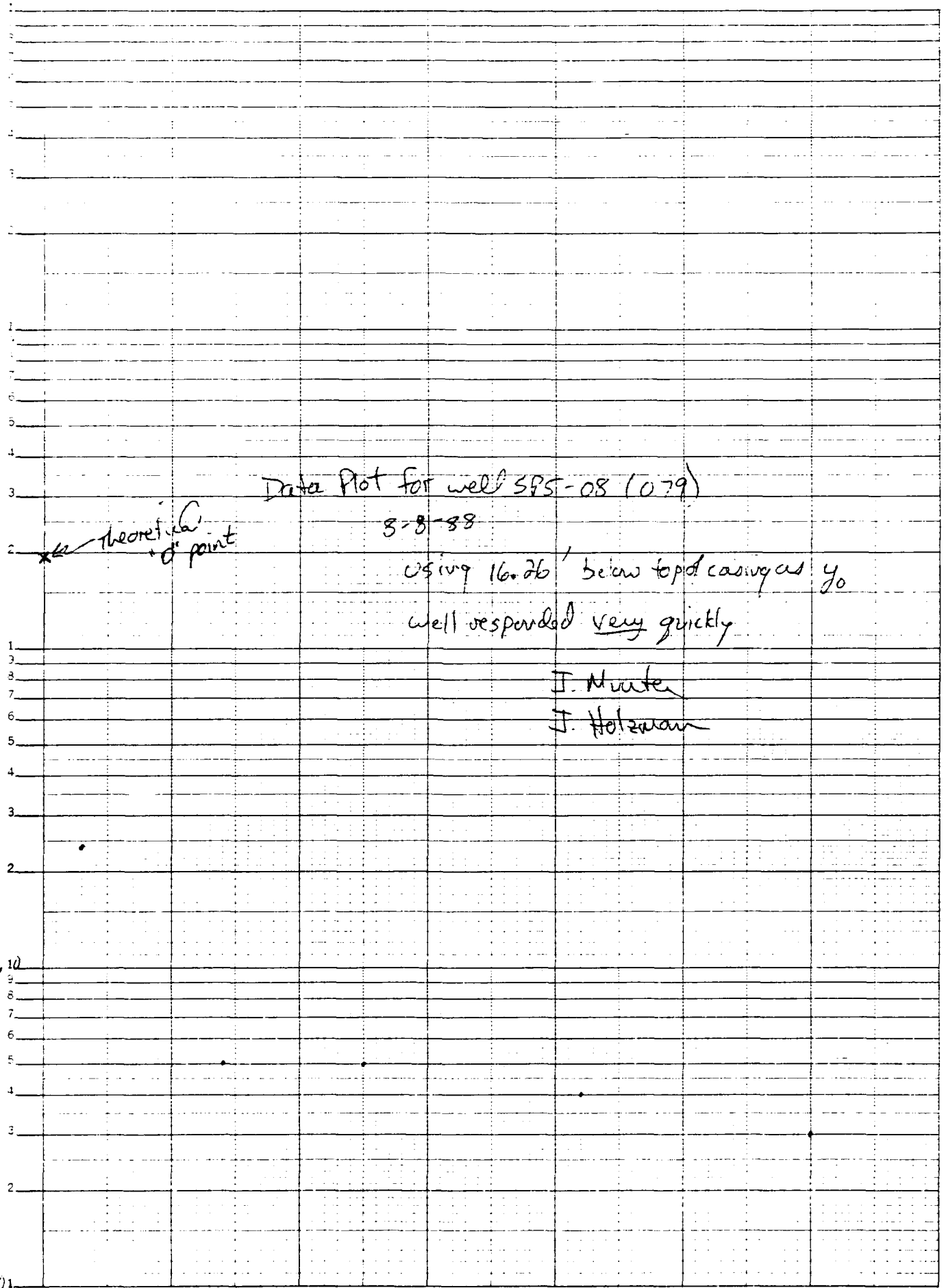
1501

injection
readings
top of casing
Mark Br measuring
levels at 0.18
tape covering
old measuring
pt.

time = 1532

ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
20	16.17
23:00 23:00	16.18
WITHDRAWAL	
8 sec	16.33 ?
27	16.305
38	16.295
56	16.295
1:19	16.30
1:49	16.29
4:45	16.27
5:08	16.27
second time for test	
injection	16.27
6 sec	16.095
18	16.105
26	16.11
36	16.125
47	16.135
1:16	16.13
1:38	16.14
2:00	16.14
WITHDRAWAL	
3	16.50
14	16.31
25	16.31
42	16.30
60	16.29
2:00	16.27

2:17



Data Plot for well SPS-08 (079)

8-8-88

using 16.26' below top of casing as y_0

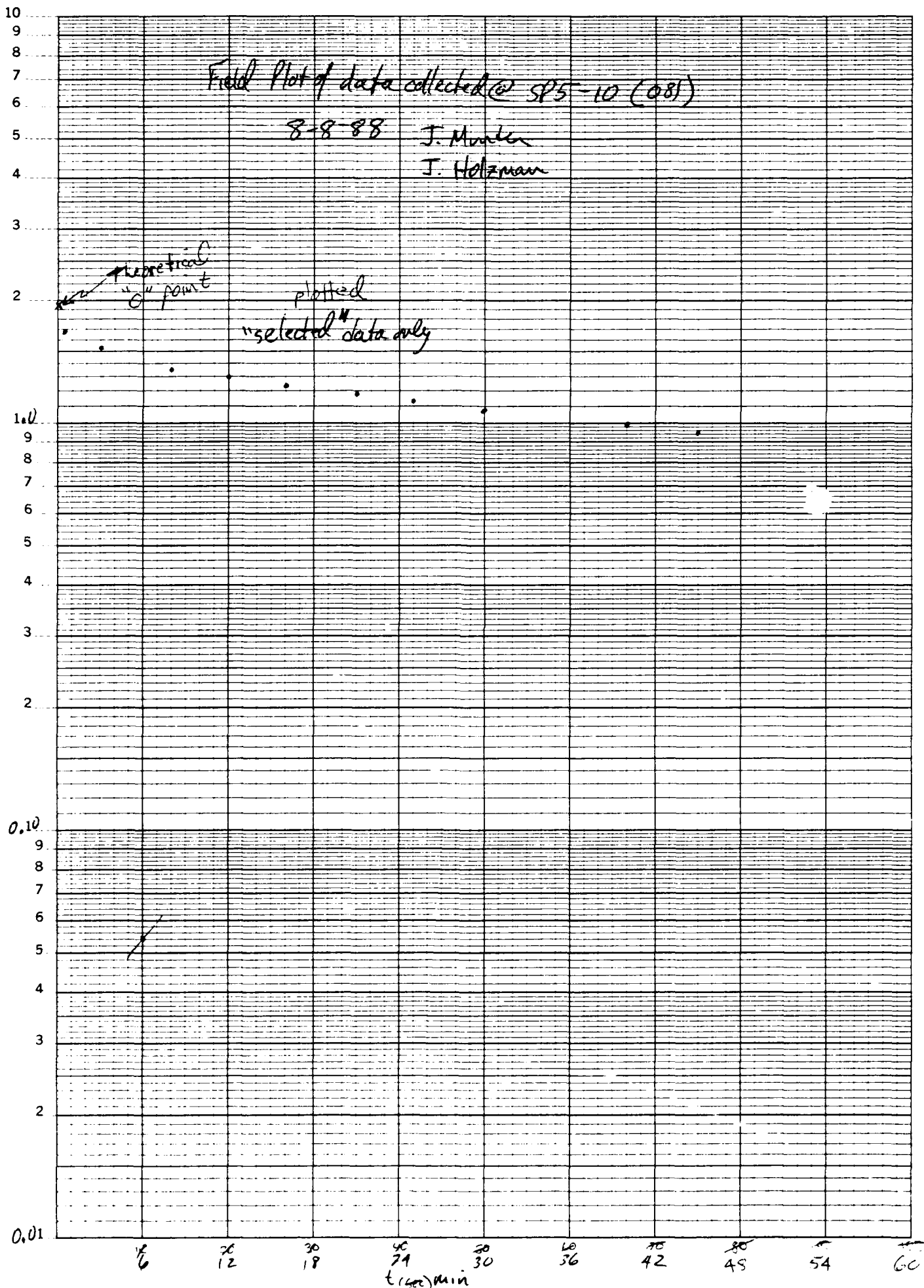
well responded very quickly

J. Hunter

J. Holzman

46 5370

KE SEMI-LOGARITHMIC 3 CYCLES X 60 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.



SLUG TEST DATA

10-ELM 0687
S07 S010 01 184

LOG DATE 8-23-88

LONGER CODE 54 D.Y.

SLUG VOLUME (FT³) 0.0426

TEST METHOD SLUG INJECTION OR SLUG WITHDRAWAL

118 CONCRETE PAD FLUSH W/GROUND SURFACE; OUTER

CASING STICK UP IS 0.9' PUL IS 0.2' BELOW STEEL CASING

MEASURING MARK ON EAST SIDE

[illegible][illegible]

SLUG TEST DATA

INSTALLATION ID ELM 0687

LOCATION ID SP7/SP10 02 (085)

LOGGER CODE 2A D.Y.

TEST METHOD SLUG SLUG INJECTION OR

LOG DATE 8-23-88

SLUG VOLUME (FT³) 0.426

TEST METHOD SLUG INJECTION OR SLUG WITHDRAWAL

COMMENTS TOSC = 0.11 ft above concrete pad = ground surface

Top of PVC = 0.16 ft below TOSC

measure mark = east side A/C

[illegible][illegible]

SLUG TEST DATA

INSTALLATION ID 22m 0687

LOCATION ID SP7/SP10 03 1086

LOGGER CODE 7A D.Y.

TEST METHOD ✓ SLUG INJECTION OR

COMMENTS TOSC = 2.52 ft above concrete pad - pad = 0.14 ft above ground
top of PVC = 0.615 ft below TOSC

measure mark = east side PVC

TOSC = top of steel casing

LOG DATE 8-23-88

SLUG VOLUME (FT³) 0.0426

✓ SLUG WITHDRAWAL

[illegible][illegible]

COMMENTS contaminated well, MEASURED MARK EAST SIDE OF
PVC, TOP OF PVC 0.25' BELOW TOP OF STEEL CAST,
STEEL CAST 1.66' ABOVE CONCRETE PAD, PAD = GROUND SURFACE

[illegible]

SLUG TEST DATA

INSTALLATION ID ELM 0687

LOCATION ID 5A7/5A10 W-3 (5A7) (C88)

LOGGER CODE 2A D.Y.

LOG DATE 8-23-88

SLUG VOLUME (FT³) 0.0426

TEST METHOD ✓ SLUG INJECTION OR SLUG WITHDRAWAL

COMMENTS, MEASURING PT ON EAST SIDE, TOP OF PVC
IS 0.28' BELOW TOP OF SURFACE CASING. SURFACE CASING
IS 1.3' ABOVE GROUND SURFACE

[illegible]

IN SECT. 8A

[illegible]

TOSC = top of steel casing

$TOSC = 1.40 \text{ ft}$ above concrete which is

1 SLUG WITHDRAWAL

land service

[illegible]

TOSC = top of steel casing

LOCATION ID SP14-02 (097)

LOGGER CODE 24 J.M.

TEST METHOD SLUG INJECTION OR

COMMENTS top of PVC = 0.50 ft to TOSC
measure mark N side

land surface = 0.2 ft below concrete pad

LOG DATE 8-10-88

SLUG VOLUME (FT³) 0.0426

 SLUG WITHDRAWAL

TOSC = 2.4 ft above concrete pad

[illegible]

TDSC = top of steel casing

SLUG VOLUME (FT³) 0.0426 ~~43~~

0.30 ft from ground surface to top of concrete pad

[illegible]

large cobbles
up to 4 in Ø
around well

V RAPID
recovery

Water Marker
Johnson wop

Murder he ld
40.50 during
withdrawal
and probe
never came out
of the water

SLUG TEST DATA

INSTALLATION ID 54th 0687

LOCATION ID NS3 03 (110)

LOGGER CODE 74 L.M.

TEST METHOD ✓ SLUG INJECTION OR ✓ SLUG WITHDRAWAL

COMMENTS measuring mark - south side PVC

for PVC = 0.17 ft below TO SC

TDSC \rightarrow 2.55 ft above concrete pad = 0.3 ft above land surface

LOG DATE 8-26-88

SLUG VOLUME (FT³) 0.0426

✓ SLUG WITHDRAWAL

[illegible][illegible]

SLUG TEST DATA

INSTALLATION ID ELM 0687

LOCATION ID NS3 06 (113)

LOGGER CODE 94 J.M.

TEST METHOD 1 SLUG INJECTION OR

COMMENTS flush mount

top of PVC = 0.34 ft below ~~IOS~~, flush main + unit = 0.1 ft above land surface

measure mark = south west side PVC

LOG DATE 8-25-88

SLUG VOLUME (FT³) 0.0426

 SLUG WITHDRAWAL

[illegible][illegible]

SLUG TEST DATA

INSTALLATION ID ELM 0687

LOCATION ID BH-4 (122)

LOGGER CODE JH S.M

TEST METHOD SLUG SLUG INJECTION OR

COMMENTS measure mark = East side PVC

top of PVC = 0.32 below TOSL

LOG AT 8-25-88

SLIP VOLUME (ET³) 0.0426

✓ **SUM WITHDRAWAL**

TC SC = 2.37 ft above concrete 2nd

concrete pad = 0.20 ft above ground surface.

[illegible][illegible]

← water level increased
Sludge 5+0.97

SLUG TEST DATA

INSTALLATION ID ELM 0687

LOCATION ID BH-5 (123)

LOGGER CODE 214 Sim

TEST METHOD ✓ SLUG INJECTION OR

COMMENTS measure mark = west side PVC

tr PVC = 0.17 ft below TOSC TOSC = 2.64 ft above concrete pad

concrete pad = 0.4 ft above ground surface

ELAPSED TIME (MIN.)	DEPTH TO WATER (FT)
12.27	7 + 0.27
12.27	7 + 0.28
injection	
7 sec	6 + 0.33
20	6 + 0.57
37	6 + 0.72
49	6 + 0.79
1:05	6 + 0.85
1:19	6 + 0.90
1:37	6 + 0.93
1:51	6 + 0.96
2:12	6 + 0.99
2:36	7 + 0.03
2:53	7 + 0.05
3:26	7 + 0.08
3:48	7 + 0.09
4:12	7 + 0.11
4:39	7 + 0.125
5:25	7 + 0.145
6:33	7 + 0.165
8:21	7 + 0.19
9:51	7 + 0.205
10:54	7 + 0.21
13:27	7 + 0.215
14:35	7 + 0.21

[illegible]

water level read 0.10 ft above
bottom of probe

LOCATION ID BH-6 (124)

LOG DATE 8-25-88

LOGGER CODE 2H S.M.

SLUG VOLUME (FT³) ~~0.042~~

TEST METHOD SLUG SLUG INJECTION OR

✓ SLUG WITHDRAWAL

COMMENTS measure mark = north side PVC

top of pvc = 0.34 ft below TQSC

TOSC = 1.84 ft above concrete and 0.3 ft above land surface

[illegible][illegible]

TD = 12.04
k and σ^2 = 1000

So. 1st 1000 1000 1000

Ground Water Level Data

GROUND WATER LEVEL DATA

INSTALLATION ID 0687

LOG DATE 8/4/88

LOGGER CODE DM

LOGGER CODE 1110
COMMENTS Sampled SP-5 (072, 077, 078, 079, 081)

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID ELM (0687)
 LOGGER CODE SMB

LOG DATE 8/5/88

COMMENTS

COMMENTS weather - light Rain, calm 55°F

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID ELM (0687)

LOG DATE 8/8/88

LOGGER CODE SUB

COMMENTS

COMMENTS: weather - partly sunny 70° no breeze

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID SLM (0687)

LOG DATE 8/9/88

LOGGER CODE SMB

COMMENTS _____

weather - partly sunny 60° calm

[illegible]

• USE 24 HOUR CLOCK

••FROM MEASUREMENT REFERENCE POINT

GROUND WATER LEVEL DATA

INSTALLATION ID 0687

LOG DATE 8/10/88

LOGGER CODE DM

COMMENTS Sampled 1-7 (014, 011, 010)

SP 2/6-100 (051, 052, 061, 062)

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID 0687

LOG DATE 8/11/88

LOGGER CODE DM

LOGGER CODE 01
COMMENTS Sampled SP14-2(097), SP14-01(096), SP-14(099)-DM7A,
SP14(098)-W-17,

[illegible]

• USE 24 HOUR CLOCK

••FROM MEASUREMENT REFERENCE POINT

GROUND WATER LEVEL DATA

INSTALLATION ID 0687

LOG DATE 8/12/88

LOGGER CODE DM

COMMENTS: Sampled SP11 GW-14 (090), SP11-GW 4A (091),
SP12 W-9 (092), SP12 GW-3A (093), SP-4-01 (063)

[illegible]

* USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID 0687

LOG DATE 8/13/88

LOGGER CODE Dm

LOGGER CODE VII-
COMMENTS Sampled SP 2/6-04(054); SP 2/6 03(053);
NS2-01(106); D-13-01(015); NS2-02(107)

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID 0687

LOG DATE 8/15/88

LOGGER CODE DM

LOGGER CODE DM
COMMENTS Sampled SP 7/10-02(085) W-4(089) SP 7/10-01(084)
SP 7/10-03(086); SP 7/10-W3(088) - (087)

COMMENTS Sampled SP 7/10-02 (085) W-4/089; SP 7/10-01 (084)
SP 7/10-03 (086); SP 7/10-W3 (088) - (087)

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID 0087
 LOGGER CODE Sm
 COMMENTS _____

LOG DATE 8/16/88

COMMENTS _____

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID. 0687

LOGGER CODE DWC

COMMENTS.

LOG DATE 8/17/88

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID 0687
 LOGGER CODE DM
 COMMENTS _____

LOG DATE 8/18/88

COMMENTS _____

[illegible]

• **USE 24 HOUR CLOCK**

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID 0087
 LOGGER CODE DM
 COMMENTS _____

LOG DATE 8/9/88

COMMENTS _____

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID 0687
 LOGGER CODE DM
 COMMENTS _____

LOG DATE 8/22/88

COMMENTS _____

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID 0687

LOG DATE 8/23/88

LOGGER CODE 1570

COMMENTS Sampled at NS3 sites 02, 03, 06

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID 0687
 LOGGER CODE DM
 COMMENTS _____

LOG DATE 8/29/88

COMMENTS _____

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

GROUND WATER LEVEL DATA

INSTALLATION ID 0687
 LOGGER CODE DM
 COMMENTS _____

LOG DATE 8/30/88

COMMENTS _____

[illegible]

• USE 24 HOUR CLOCK

****FROM MEASUREMENT REFERENCE POINT**

Ground Water Quality Sampling Data

QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID SLM 0687 ON DATE 8/8/88 LOG TIME 1403
 LOCATION ID D3-01 (001) LOT CONTROL NO. —
 SAMPLE TYPE N SAMPLE ID 0687-0003 SAMPLE DEPTH (FT.) 26 ft

INITIAL GROUNDWATER DEPTH (FT.) 26.8 ft 8/14/88 - 25.92 ft
 SAMPLING PERIOD: START 8/14/88 1215 COMPLETE 1215
 SAMPLING METHOD B LOGGER CODE SLB
 LAB CODE RM94 DATE SENT 8/20/88
 PRESERVATION METHOD HCl H₂SO₄ H₂O₂ added by QALN
 COMMENTS Depth from TOC to base of well = 60.8
Stichup = 2 ft barrel volume 5.6 gal/ft

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.91</u>	DETECTION LIMIT	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>140</u>		<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>		
TEMPERATURE	TEMP	°C	<u>5.5</u>		<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>92</u>		<u>1</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume (gal)				
1403	0.0	0.0	—	—	—	START PUMPING
1450	18	3.2				very turbid, boiled dry
1647	11.2	5.2	8.38	150	7.8	turbid
1703	16.8	6.2	8.56	140	5.9	turbid
1715	22.4	7.2	8.55	139	5.9	sl. turbid, 4 gpm
1724	25	7.7	8.56	139	5.9	v. sl. turbid - clear
						adequately developed
						for sampling
						(very slow recharge)
1724						Final water level 47.1 ft

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

8/8/88

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID SLM LOG DATE 14 July 88, 6 Aug 88 LOG TIME 0830
 LOCATION ID D3-002 (002) LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 002-0003 SAMPLE DEPTH (FT.) 20.0 ft

INITIAL GROUNDWATER DEPTH (FT) 19.7 ft 19.7 ft 6 Aug 88
 SAMPLING PERIOD: START 8/19/88 1040 COMPLETE 1056
 SAMPLING METHOD B LOGGER CODE SWB
 LAB CODE RNAL DATE SENT 8/20/88
 PRESERVATION METHOD HCl H₂SO₄ or HNO₃ added by lab
 COMMENTS well depth 31.6 ft borehole volume 2 gal
Struck 1.5 ft

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN pH S.U. 7.51 DETECTION LIMIT 0.01
 SPECIFIC CONDUCTANCE SC μ mhos/cm 162 1
 REDOX POTENTIAL Eh mvolts 5
 TEMPERATURE TEMP °C 5.0 0.1
 ALKALINITY (CaCO₃) ALK mg/l 129.2 0.2

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μ mhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
	0.0	0.0	-	-	-	START PUMPING
0830	0.0	0	6.62	200	8	Clear H ₂ O = 0.00
0835	3.5	1.8	6.69	250	5	Bailed dry in 3 1/2 gal.
1450	2.0	1.8	7.41	330	9	Clear to slightly cloudy
1455	5.0	3.5	7.55	330	11	Very murky + turbid
						Bailed dry after 3 add. gal.
1055						
1105	9.0	4.5				light grey, very turbid, bailed during 19.7 ft
1120						
1134	13	6.5				bailed dry in 4 gal/hrs
1143			6.16	180	5	water level = 26.4 ft
1159	15	7.5	6.29	175	4.3	moderately turbid (well produces 140 gal/hr)
1209	16	8	6.03	175	4.3	bailed dry, slightly turbid

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

10 gal/hr page note >

GROUND WATER QUALITY SAMPLING RECORD

PAGE 2 OF 2

INSTALLATION ID 5264 LOG DATE 6 Aug 88 LOG TIME _____
LOCATION ID D302 (002) LOT CONTROL NO. _____
SAMPLE TYPE _____ SAMPLE ID (002) SAMPLE DEPTH (FT.) _____

INITIAL GROUNDWATER DEPTH (FT) _____
SAMPLING PERIOD: START _____ COMPLETE _____
SAMPLING METHOD _____ LOGGER CODE _____
LAB CODE _____ DATE SENT _____
PRESERVATION METHOD _____
COMMENTS bailed from 10' - 12' water

FINAL PARAMETER MEASUREMENTS:

DETECTION
LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	_____	_____
SPECIFIC CONDUCTANCE	SC	μ mhos/cm	_____	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	$^{\circ}$ C	_____	_____
ALKALINITY (CaCO_3)	ALK	mg/l	_____	_____

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μ mhos/cm)	TEMP. ($^{\circ}$ C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
1218	17	8.5	6.20	185	4.0	slight turbid, lower down
1226	17.8	8.9	6.14	185	4.0	" " " "
						water section about
						6 gal/bow - 12' down
						collected for sampling

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
R - REPLICATE TB - TRIP BLANK
S - SPIKE LB - LAB BLANK
K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
B - BAILER AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP BP - BLADDER PUMP
SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM LOG DATE 7/14/88 LOG TIME _____
 LOCATION ID D-3-C03 LOT CONTROL NO. _____
 SAMPLE TYPE _____ SAMPLE ID 003 SAMPLE DEPTH (FT.) _____

INITIAL GROUNDWATER DEPTH (FT) 9ft 7in (TOC)
 SAMPLING PERIOD: START _____ COMPLETE _____
 SAMPLING METHOD _____ LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

DETECTION
LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	_____	_____
SPECIFIC CONDUCTANCE	SC	µmhos/cm	_____	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	°C	_____	_____
ALKALINITY (CaCO ₃)	ALK	mg/l	_____	_____

TIME	TOTAL VOLUME WITHDRAWN		pH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
0900	0.0		7.51	360	6	Slightly turbid
0910	2.0		7.64	320	4	Very turbid
0914	4.0	2.60	7.66	255	4	" Bailed dry in 5 min
1410	4.0		7.64	370	6	very slightly turbid
1416	9.0		7.64	360 90	9	turbid - milky gray bailed dry @ 7 gallons in afternoon
1430	12		7.56	385	7 1/2	milky

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM 0687 LOG DATE 8/8/88 LOG TIME 15:0
 LOCATION ID D3 03 (003) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID (003) CCCC3 SAMPLE DEPTH (FT.) 10 ft

INITIAL GROUNDWATER DEPTH (FT) 10 ft 8/8/88 8/19/88 10.33 ft
 SAMPLING PERIOD: START 8/19/88 1135 COMPLETE 1135
 SAMPLING METHOD B LOGGER CODE 2-13
 LAB CODE RW42 DATE SENT 8/20/88
 PRESERVATION METHOD HCl H₂SO₄ HNO₃ collected by lab
 COMMENTS Bottom of well = 22.5 ft
Stratup = 2.6 ft above ground level well volume = 2.1 gallons

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.54</u>	DETECTION LIMIT	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>339</u>		<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>		<u>-</u>
TEMPERATURE	TEMP	°C	<u>3.5</u>		<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>262</u>		<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
1500	0.0	0.0	-	-	-	START PUMPING
1534	6.3	3				very turbid, bristled well, dry, 0.5 gpm
1550	8.4	4	7.57	342	6.5	very turbid, brownish-grey
1558	10.5	5	7.62	350	4.3	very turbid, brown-grey, 0.4 gpm
1607	12.6	6	7.66	350	4.4	turbid
1300	12.6	6	7.89	378	5.3	(batter left in well overnight)
1306	16.8	8	7.70	358	4.3	still slightly turbid after boiling dry
1318	18.9	9	7.74	345	4.8	boiled dry
						well adequately developed
						considering slow recharge
1324						Final water level 207 ft

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

PAGE 1 OF 2

well installer in 1986 - price into 21005

**DETECTION
LIMIT**

[illegible]

SAMPLE METHODS: (WSMCODE)

G - GRAB	SP - SUBMERSIBLE PUMP
B - BAILER	AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP	BP - BLADDER PUMP
SL - SUCTION LIFT PUMP	

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM1 0687 LOG DATE 8/29/88 LOG TIME 1030
 LOCATION ID GW-1A D-5 LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 007-0001 SAMPLE DEPTH (FT.) 42ft (100)

INITIAL GROUNDWATER DEPTH (FT) 41.75 ft (100)
 SAMPLING PERIOD: START 1050 COMPLETE 1105
 SAMPLING METHOD B LOGGER CODE SN3
 LAB CODE RWAL DATE SENT 8/30/88
 PRESERVATION METHOD H₂SO₄ HNO₃ HCl added by lab
 COMMENTS Dyn well installed 487

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	PH	S.U.	<u>4.68</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	μmhos/cm	<u>88</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>5.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>46.4</u>	<u>0.2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	(Bore Volume)				
	0.0	0.0	-	-	-	START PUMPING
1037	0	0	4.68	092	6.0	slightly cloudy, no odor & taste
1040	2	1 2	4.67	090	5.0	torbidity " "
1045	4	2 4	4.69	092	5.0	" " "
1047	6	3 6	4.65	88	5.0	" " "

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

PAGE 1 OF 2

INITIAL GROUNDWATER DEPTH (FT) 40.96 ft (roc)
SAMPLING PERIOD: START 1400 COMPLETE 1415
SAMPLING METHOD B LOGGER CODE SNB
LAB CODE RNAL DATE SENT 8/10/88
PRESERVATION METHOD Asay, HCL or NaOH added - Chill to 4°C
COMMENTS Well installed in 1987 - Rege info below

DETECTION
LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.82</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	<u>129</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	$^{\circ}\text{C}$	<u>6.5</u>	<u>0.1</u>
ALKALINITY (CaCO_3)	ALK	mg/l	<u>64</u>	<u>2</u>

[illegible]

SAMPLE METHODS. (WSMCODE)

D - DUPLICATE FB - FIELD BLANK
R - REPLICATE TB - TRIP BLANK
S - SPIKE LB - LAB BLANK
K - KNOWN N - NORMAL

G - GRAB	SP - SUBMERSIBLE PUMP
B - BAILER	AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP	BP - BLADDER PUMP
SL - SUCTION LIFT PUMP	

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM LOG DATE 8/29/88 LOG TIME 1115
 LOCATION ID GW-2A D-5 LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 009-0001 SAMPLE DEPTH (FT.) 42 ft

INITIAL GROUNDWATER DEPTH (FT) 42.16 ft (TDC)
 SAMPLING PERIOD: START 1140 COMPLETE 1156
 SAMPLING METHOD B LOGGER CODE SWB
 LAB CODE DUAL DATE SENT 8/30/88
 PRESERVATION METHOD HCl H₂SO₄ or HNO₃ added by lab
 COMMENTS Sum well installed R86

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>4.22</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>070</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>5°C</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>47.2</u>	<u>0.2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volumes				
	0.0	0.0	-	-	-	START PUMPING
1124	0	0	4.26	008	7	Sl. cloudy no odor or taste
	2	1	4.20	073	5.5	Lightly " " " "
	4	2	4.27	073	5	" " " "
	6	3	4.22	070	5	" " " "

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 LOG DATE 8/10/88 LOG TIME 1900
 LOCATION ID W-5 (D-7) LOT CONTROL NO. —
 SAMPLE TYPE N SAMPLE ID 010-0001 SAMPLE DEPTH (FT.) 32

INITIAL GROUNDWATER DEPTH (FT) 32.47
 SAMPLING PERIOD: START 1050 COMPLETE 1100
 SAMPLING METHOD B LOGGER CODE DM
 LAB CODE RNAL DATE SENT 8/11/88
 PRESERVATION METHOD Chill to 4°C. add H₂SO₄ or HNO₃
 COMMENTS Duplicate sample collected

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.83</u>	DETECTION LIMIT	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	μmhos/cm	<u>128</u>		<u>mm</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>		<u>—</u>
TEMPERATURE	TEMP	°C	<u>6.4</u>		<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>70</u>		<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
1019	0.0	0.0	—	—	—	START PUMPING
1023	4	1	6.74	137	6.2	clear no sheen or odor
1025	8	2	6.8	128	6.2	turbid
1029	12	3	6.83	128	6.4	"

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 LOG DATE 8/10/88 LOG TIME 1900
 LOCATION ID D-7 W-6 (all) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 011-0001 SAMPLE DEPTH (FT.) 32

INITIAL GROUNDWATER DEPTH (FT) 33.24
 SAMPLING PERIOD: START 0935 COMPLETE 0945
 SAMPLING METHOD B LOGGER CODE DM
 LAB CODE RMAL DATE SENT 8/11/88
 PRESERVATION METHOD Chill to 4°C. Add H₂SO₄ or HNO₃
 COMMENTS well installed in 1986
Purge info below

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>100 6.87</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>100</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>5.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>68.0</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
0924	2.5	1	6.84	95	5.5	clear, some minor particulates
0927	5	2	6.89	95	5.5	turbid, particulates
0930	7.5	3	6.87	100	5.5	" "

SAMPLES TYPES (WSACODE)

D - DUPLICATE	FB - FIELD BLANK
R - REPLICATE	TB - TRIP BLANK
S - SPIKE	LB - LAB BLANK
K - KNOWN	N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB	SP - SUBMERSIBLE PUMP
B - BAILER	AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP	BP - BLADDER PUMP
SL - SUCTION LIFT PUMP	

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM 6657 LOG DATE 8/9/88 LOG TIME 1117
 LOCATION ID GW1B (N47) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 12-0001 SAMPLE DEPTH (FT.) 35ft (TOC)

INITIAL GROUNDWATER DEPTH (FT.) 35.63 ft TOC
 SAMPLING PERIOD: START 1330 COMPLETE 1340
 SAMPLING METHOD B LOGGER CODE SVB
 LAB CODE RmtL DATE SENT 8/16/88
 PRESERVATION METHOD HCl, H₂SO₄ OR HNO₃ added chill to 4°C
 COMMENTS Well in stalled in 1981, Pump into below

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.80</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>345</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvols	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>5.6</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>228</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
1102	0	0	6.94	340	8	Slightly cloudy, no odor or stain
1106	1.6	1	6.84	338	5.8	OPaque " "
1110	3.2	2	6.86	341	6.2	" " "
1114	4.8	3	6.80	345	5.6	" " "

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

INSTALLATION ID 0687 SLM LOG DATE 8/9/88 LOG TIME 1045
 LOCATION ID GW-2A (D-7) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 013-6001 SAMPLE DEPTH (FT.) 43 ft (roc)
33

INITIAL GROUNDWATER DEPTH (FT.) 33 ft 44.23 ft (roc)
 SAMPLING PERIOD: START 1300 COMPLETE 1310
 SAMPLING METHOD GB LOGGER CODE 5m3
 LAB CODE RWAL DATE SENT 8/10/88
 PRESERVATION METHOD H₂SO₄ HCL HNO₃ added - chill to 4°C
 COMMENTS well installed in 1987

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.89</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>273</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>6.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>162</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		pH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
1025	0	0	6.86	218	7.5	clear slight H ₂ S odor No den
1032	2	1	6.79	276	7.0	cloudy " " " "
1036	4	2	6.88	275	5.8	" " " "
1040	6	3	6.89	273	6.0	" " " "

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 LOG DATE 8/10/88 LOG TIME 1900
 LOCATION ID GW-2C (014) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 014-0001 SAMPLE DEPTH (FT.) 32 ft

INITIAL GROUNDWATER DEPTH (FT) 31.92 (TDC)
 SAMPLING PERIOD: START 0845 COMPLETE 0900
 SAMPLING METHOD B LOGGER CODE DM
 LAB CODE RMAL DATE SENT 8/11/88
 PRESERVATION METHOD Chill to 4°C Add H₂SO₄ or HNO₃
 COMMENTS Well was not locked when approached for sampling

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.27</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>208</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>5.8</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>118</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
0835	0.0	0.0	-	-	-	START PUMPING
0835	0	-	6.11	222	7.0	No flow /
0837	1.5	1	6.03	210	6.0	
0839	3.0	2	6.16	212	6.0	
0843	5.0	3	6.27	208	5.8	

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM 0687 LOG DATE 3 Aug 88 LOG TIME 1140
 LOCATION ID D13-01 (015) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 015-0003 SAMPLE DEPTH (FT.) 41 ft

INITIAL GROUNDWATER DEPTH (FT) 40.9 (Toc)
 SAMPLING PERIOD: START 1220 (8/19/88) COMPLETE 1240
 SAMPLING METHOD B LOGGER CODE SVB
 LAB CODE PWML DATE SENT 8/10/88
 PRESERVATION METHOD HCl H2SO4 or HNO3 added
 COMMENTS Casing stickup 2.7 ft well depth 57.8 ft
Bore volume = 2.8 gal

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.37</u>	DETECTION LIMIT	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>197</u>		<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>		<u>-</u>
TEMPERATURE	TEMP	°C	<u>19.7 (6.0)</u>		<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>70</u>		<u>2</u>

Final levels of the developing water level boring 40.9 57 ft

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	(Bore Volume)				
1140	0.0	0.0	-	-	-	START PUMPING
1158	28	10	6.39	125	8.5	very turbid 2.5 gpm
1218	56	20	6.85	120	7.5	turbid 2.5 gpm
1234	84	30	6.94	118	7.0	slightly turbid 2.5 gpm
1245	98	35	6.98	119	7.1	very slight turbid
1254	112	40	6.97	119	7.1	clear
						parameters stable - well developed
						Some sampling 3 Aug 88

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

PAGE 1 OF 2

INITIAL GROUNDWATER DEPTH (FT) 40.6 ft TOC

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN

pH

S.U.

6.61

col

SPECIFIC CONDUCTANCE

SC

 $\mu\text{mhos/cm}$

178

1

REDOX POTENTIAL

En

mvolts

—

1000

TEMPERATURE

TEMP

°C

6.0

Q.1

ALKALINITY (CaCO_3)

ALK

mg/l

98

2

SAMPLES TYPES: (WSACODE)

D - DUPLICATE

FB - FIELD BLANK

SAMPLE METHODS: (WSMCODE)

G - GRAB

SP - SUBMERSIBLE PUMP

R. REPLICATE

TD - TRIP BLANK

B. BAKER

AL - AIR-LIFT SAMPLER

8. **SPYKE**

LB - LAB BLANK

PP - PERISTALTIC PUMP

BP - BLADDER PUMP

K - KNOWN

N - NORMAL

SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 LOG DATE 7/23/88 LOG TIME 1300
 LOCATION ID 213-03 (017) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 017-0003 SAMPLE DEPTH (FT.) 38 ft TOC

INITIAL GROUNDWATER DEPTH (FT) 37.9 ft TOC
 8/9/88 SAMPLING PERIOD: START 1430 COMPLETE 1430
 SAMPLING METHOD G B LOGGER CODE SMB
 LAB CODE RMAL DATE SENT 8/9/88
 PRESERVATION METHOD Chill to 4°C, HCL, HNO3 HAcOH added for certain tests
 COMMENTS Depth to BOC = 54.8 ft Developed w/ B-K pump
well volume = 2.8 gallons

FINAL PARAMETER MEASUREMENTS:

PARAMETER	UNIT	MEASUREMENT	DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	6.92	0.01
SPECIFIC CONDUCTANCE	SC μ mhos/cm	132	1
REDOX POTENTIAL	Eh mvolts	-	-
TEMPERATURE	TEMP °C	6.0	0.1
ALKALINITY (CaCO ₃)	ALK mg/l	17	2

TIME	TOTAL VOLUME WITHDRAWN		pH	SC (μ mhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
1300	0.0	0.0	-	-	-	START PUMPING
1320	35	12.5	7.19	120	8	brown turbid
1335	70	25	7.01	120	8	brown turbid
1346	105	37.5	7.01	120	7	slightly turbid
1350 - 1400	140	50	7.00	120	7	v. slightly brown turbid
1405 - 1412	160	60	7.06	120	7	v. slightly brown turbid
						Purge rate 3gal/min
1430						- Developed water table 37.9 ft

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAKER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

0687
 INSTALLATION ID EUM LOG DATE 8/22/88 LOG TIME 1000
 LOCATION ID W-11 (D-17) LOT CONTROL NO. +
 SAMPLE TYPE N SAMPLE ID 031-0001 SAMPLE DEPTH (FT.) 7 ft

INITIAL GROUNDWATER DEPTH (FT) 7.67 ft (TOC)
 SAMPLING PERIOD: START 8/22 1026 COMPLETE 1039
 SAMPLING METHOD B LOGGER CODE SW3
 LAB CODE RNAL DATE SENT 8/23/88
 PRESERVATION METHOD HCl Assay of HNO_3 added Chill to 4°C
 COMMENTS Dum well installed 1986 - purge info. below

FINAL PARAMETER MEASUREMENTS:

DETECTION

PARAMETER	UNIT	MEASUREMENT	DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	7.35	0.01
SPECIFIC CONDUCTANCE	SC $\mu\text{mhos/cm}$	795	1
REDOX POTENTIAL	Eh mvolts	-	-
TEMPERATURE	TEMP °C	6.2	0.1
ALKALINITY (CaCO_3)	ALK mg/l	499.6	0.2

TIME	TOTAL VOLUME WITHDRAWN		PH	SC ($\mu\text{mhos/cm}$)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING Has
1005	0	0	7.34	1310	7.2	grey, black particles - no odor
1015	6.5	1	7.39	1000	6.0	" " "
1020	13	2	7.34	800	6.6	" " "
1024	19.5	3	7.35	795	6.2	" " "

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

0687
 INSTALLATION ID EML LOG DATE 8/22/88 LOG TIME 1100
 LOCATION ID W-13 (D-17) LOT CONTROL NO.
 SAMPLE TYPE N SAMPLE ID 032-0001 SAMPLE DEPTH (FT.) 15ft

INITIAL GROUNDWATER DEPTH (FT) 15.00ft (top)
 SAMPLING PERIOD: START 8/22 1500 1320 COMPLETE Return 1508
 SAMPLING METHOD B LOGGER CODE SM2
 LAB CODE RNAL DATE SENT 8/23/88
 PRESERVATION METHOD HCl H₂SO₄ or HNO₃ added Chill to 4°C
 COMMENTS Rem well installed 8/86
Well bailed only during purge (4gal) and during sampling
was allowed to recharge each time

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.39</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>510</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>8.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>366</u>	<u>0.2</u>
	ALK	dup	<u>823.6</u>	<u>0.2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
	0.0	0.0	-	-	-	START PUMPING
1102	0	0	7.34	525	9	clear NO odor NO foam
1107	3	1	7.39	510	8	Turbid " " " "

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAIER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM 0687 LOG DATE 5 Aug 88 LOG TIME 0930
 LOCATION ID IS-1 (033) LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 033-0003 SAMPLE DEPTH (FT.) 28ft

INITIAL GROUNDWATER DEPTH (FT) 28.30 ft (TOC)
 SAMPLING PERIOD: START 8/18/88 0907 COMPLETE 0918
 SAMPLING METHOD B LOGGER CODE SMR3
 LAB CODE RNAL DATE SENT 8/18/88
 PRESERVATION METHOD HCL, H2SO4, HNO3 or NaOH added by lab Chill to 4°C
 COMMENTS TOC is 0.5 ft below ground surf; bottom of well is 34.8 ft from
Barhole volume 6.2 gallons pump rate 3 gpm with B-K pump ^{70c}

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.08</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>620</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>396</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volumes				
0930	0.0	0.0	-	-	-	START PUMPING
0941	24	20	6.72	610	7.5	Dark brown, turbid, 3 gpm
0955	48	40	7.11	630	6.7	very slightly turbid, 3 gpm
1003	60	50	7.17	630	6.7	very slightly turbid, 3 gpm
1009	72	60	7.18	630	6.6	v. sl turbid to clear, 3 gpm
1016	84	70	7.18	630	6.6	v. sl turbid to clear, 3 gpm
						adequately developed for sampling
						Final water level 28.3 ft

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID Elm 0087 LOG DATE 8/18/88 LOG TIME 1100
 LOCATION ID W-18 (FS-1) LOT CONTROL NO.
 SAMPLE TYPE N SAMPLE ID 041-0001 SAMPLE DEPTH (FT.) 30 ft

INITIAL GROUNDWATER DEPTH (FT.) 29.20 ft (TCC)
 SAMPLING PERIOD: START 1140 COMPLETE 1155
 SAMPLING METHOD B LOGGER CODE SnB
 LAB CODE PMWL DATE SENT 9/19/88
 PRESERVATION METHOD HCl, H₂SO₄, HNO₃ or NaOH added by lab Chill to 4°C
 COMMENTS D+M well installed 4/86
Pure product 1/2" in bailer, dk Brown very oily

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.22</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>590</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>8.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>404</u>	<u>4</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
	0.0	0.0	-	-	-	START PUMPING
1115	0	0	7.09	595	10.5	Pure product 1/2" in bailer
1123	3	1	7.10	550	9.5	(less) product
1128	6	2	7.17	580	8.8	" "
1135	9	3	7.22	590	8.5	Small amt of product

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM⁰⁶⁸⁷ LOG DATE 8/18/82 LOG TIME 0940
 LOCATION ID W-19 (IS-1) LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 042-0001 SAMPLE DEPTH (FT.) 29.3 ft

INITIAL GROUNDWATER DEPTH (FT) 29.31 ft (TAC)
 SAMPLING PERIOD: START 1010 COMPLETE 1042
 SAMPLING METHOD B LOGGER CODE SM
 LAB CODE Rural DATE SENT 8/19/82
 PRESERVATION METHOD HCl H₂SO₄ HNO₃ or NaOH added Chilled to 4°C
 COMMENTS Drives + more well installed 1986
Purge info below.

FINAL PARAMETER MEASUREMENTS:

DETECTION LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.26</u>	<u>7.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>450</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>6.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>404</u>	<u>4</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
0945	0	0	7.21	460	7.0	Sl. cloudy NO odor/noise
0955	2.5	1	7.21	440	7.2	" " " " "
1000	5	2	7.23	456	6.5	" " " " "
1005	7.5	3	7.26	456	6.0	" " " " "

SAMPLES TYPES. (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS. (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

39.9
29.2

10.7

1.7

1.8

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM 0687 LOG DATE 4 Aug 1988 LOG TIME 15:37
LOCATION ID IS-2 (034) LOT CONTROL NO. 2
SAMPLE TYPE W SAMPLE ID 034-0003 SAMPLE DEPTH (FT.) 29 ft

INITIAL GROUNDWATER DEPTH (FT) 29.21 ft (DOC)
SAMPLING PERIOD: START 8/17/88 1520 COMPLETE 1600
SAMPLING METHOD B LOGGER CODE SM3
LAB CODE Rmar DATE SENT 8/18/88
PRESERVATION METHOD HCl, H₂SO₄ or HNO₃ or NaOH pre-added chill to 4°C
COMMENTS Top of casing 0.5 ft below ground surface
29.2' depth to water - bottom of hole = 39.9 ft

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN
SPECIFIC CONDUCTANCE
REDOX POTENTIAL
TEMPERATURE
ALKALINITY (CaCO₃)

pH
SC
Eh
TEMP
ALK

S.U.
µmhos/cm
mvolts
°C
mg/l

7.47
330
-
6.8
236
236

DETECTION
LIMIT

0.01
1
-
0.1
0.2

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
15:52	0.0	0.0	-	-	-	START PUMPING
16:02	18	10	7.53	330	7.0	very turbid, brown, 3 gm
16:14	36	20	7.70	320	6.0	med turbid
16:23	54	30	7.76	320	5.8	slightly turbid med brn
16:34	72	40	7.75	320	5.8	v. slightly turbid
16:42	90	50	7.74	320	5.5	almost clear, 3 gm
16:52	108	60	7.68	320	5.6	" "
16:56	117	65	7.68	320	5.5	" "
						parameters - 5464 adequate
						developed bore sampling
						Final water level 29.2 ft

SAMPLE TYPES: (WSACODE)

D - DUPLICATE
R - REPLICATE
S - SPIKE
K - KNOWN
FB - FIELD BLANK
TB - TRIP BLANK
LB - LAB BLANK
N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB
B - BAILER
PP - PERISTALTIC PUMP
SL - SUCTION LIFT PUMP
SP - SUBMERSIBLE PUMP
AL - AIR-LIFT SAMPLER
BP - BLADDER PUMP

82
1.4 gal

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM 0687 LOG DATE 4 Aug 88 LOG TIME 1420
LOCATION ID IS-3 (035) LOT CONTROL NO. -
SAMPLE TYPE N SAMPLE ID 035-0003 SAMPLE DEPTH (FT.) 41 ft

INITIAL GROUNDWATER DEPTH (FT) 41.22 ft (TCC)
SAMPLING PERIOD: START 8/18/88 1350 COMPLETE 1400
SAMPLING METHOD B LOGGER CODE SW3
LAB CODE QMR DATE SENT 8/19/88
PRESERVATION METHOD HCl H₂SO₄ HNO₃ or NaOH added Chill to 4°C
COMMENTS Depth to bottom of hole 49.5 ft
Tap on casing is 0.5 ft below ground surface
Borehole volume is 1.4 gallons

FINAL PARAMETER MEASUREMENTS:			DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.05</u> 0.01
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>515</u> 1
REDOX POTENTIAL	Eh	mvolts	<u>-</u> -
TEMPERATURE	TEMP	°C	<u>5.9</u> 0.1
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>324</u> 2

developed with B.K. pump

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
14:35	0.0	0.0	-	-	-	START PUMPING
14:34	18	20	6.74	550	6.5	new turbid rate = 6 gal/min
14:44	56	40	6.96	500	6.3	Slightly turbid
14:54	84	60	7.03	510	7.0	" " "
14:57	83	70	7.02	520	6.1	" " "
15:02	112	80	7.05	520	6.1	" " "
15:08	126	90	7.06	520	6.1	very slightly turbid, 6 gal/min
						monitors stable develop
						See sampling
						Final water level 41.3 ft

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
R - REPLICATE TB - TRIP BLANK
S - SPIKE LB - LAB BLANK
K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
B - BAILER AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP BP - BLADDER PUMP
SL - SUCTION LIFT PUMP

4 Aug 88

GROUND WATER QUALITY SAMPLING RECORD

Flash mount

PAGE 1 OF 2

INSTALLATION ID Elm 6687 LOG DATE 8/9/88 LOG TIME 1105
 LOCATION ID IS-4 (036) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID (036)0003 SAMPLE DEPTH (FT.) 24'

INITIAL GROUNDWATER DEPTH (FT) 23.6'
 SAMPLING PERIOD: START 1115 COMPLETE _____
 SAMPLING METHOD B LOGGER CODE DM
 LAB CODE RMAI DATE SENT 8/10/88

PRESERVATION METHOD _____
 COMMENTS TD = 30' 70 C in 2.4 ft below ground surface
well volume = 1.1 gallons

FINAL PARAMETER MEASUREMENTS:

PARAMETER	UNIT	MEASUREMENT	DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	7.23	0.01
SPECIFIC CONDUCTANCE	SC μ mhos/cm	505	—
REDOX POTENTIAL	Eh mvolts	—	—
TEMPERATURE	TEMP °C	7.0	0.1
ALKALINITY (CaCO ₃)	ALK mg/l	234	2

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μ mhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volumes				
1105	0.0	0.0	-	-	-	START PUMPING
1135						dark brown turbid 3gpm
1131	11	10	7.44	510	7.5	moderately turbid
1137	22	20	7.32	490	6.3	slightly turbid 4gpm
1142	33	30	7.30	500	6.5	slightly turbid
1145	44	40	7.32	500	6.3	slightly turbid
1148	55	50	7.32	500	6.3	very "
1153	66	60	7.32	500	6.3	very slightly turbid
						adequately developed for sampling
						Final depth to GW = 23.6'

SAMPLES TYPES (WSACODE)

D - DUPLICATE
 R - REPLICATE
 S - SPIKE
 K - KNOWN
 FB - FIELD BLANK
 TB - TRIP BLANK
 LB - LAB BLANK
 N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB
 B - BAKER
 PP - PERISTALTIC PUMP
 SL - SUCTION LIFT PUMP
 SP - SUBMERSIBLE PUMP
 AL - AIR-LIFT SAMPLER
 BP - BLADDER PUMP

PAGE 1 OF 2

SP - SUBMERSIBLE PUMP
AL - AIR-LIFT SAMPLER
BP - BLADDER PUMP

GROUND WATER QUALITY

PAGE 1 OF 2

INSTALLATION ID 56m 0682 LOG DATE 9 Aug 88 LOG TIME 1426
 LOCATION ID IS-6 LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID (038) 0003 SAMPLE DEPTH (FT.) 50 ft

INITIAL GROUNDWATER DEPTH (FT) 49.87 ft (TDC)
 SAMPLING PERIOD: START 1425 8/17/88 0855 COMPLETE 0945
 SAMPLING METHOD B LOGGER CODE 8MB
 LAB CODE UNAR DATE SENT 9/18/88
 PRESERVATION METHOD HCL, H₂SO₄ or HNO₃ or NaOH pre-added by lab chill to 4°C
 COMMENTS Depth of well from top of PVC casing (TDC) = 60.7 ft
TDC is .7 ft below ground surface
wellbore volume = 10.8 ft³ = 1.8 gallons

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	PH	S.U.	<u>7.12</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>250</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>5.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>15.6</u> <u>156</u>	<u>0.2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
1426	0.0	0.0	-	-	-	START PUMPING
1430	18	10	7.55	228	8.0	very turbid - brown
1435	36	20	7.59	712	5.7	turbid 5 gpm pumping
1440	54	30	7.53	212	5.9	moderately turbid, brown
1445	72	40	7.52	215	5.6	moderately turbid, brown
1450	90	50	7.46	215	5.6	slightly turbid
1455	108	60	7.53	210	5.6	slightly turbid
1500	136	70	7.50	210	5.6	clear to very slightly turbid
						Ground water final level 49.9'
						well adequately developed
						for sampling

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAIER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

- - - -

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

0687
 INSTALLATION ID ELM LOG DATE 29/July 88 LOG TIME 1615
 LOCATION ID IS-7 (039) LOT CONTROL NO. —
 SAMPLE TYPE N SAMPLE ID 039-0003 SAMPLE DEPTH (FT.) 13.5ft

INITIAL GROUNDWATER DEPTH (FT) 13.56ft (TOC)
 SAMPLING PERIOD: START 8/17/88 1410 COMPLETE 1420
 SAMPLING METHOD B LOGGER CODE SW3
 LAB CODE RMA DATE SENT 8/18/88
 PRESERVATION METHOD HCL, H2SO4, HNO3 & NaOH pre-added by lab - Chill to 4°C
 COMMENTS TD = 26.7" from TOC Purge rate 3 1/2 GPM
TOC 3" below ground surface 2.194 / well vol.

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN
 SPECIFIC CONDUCTANCE
 REDOX POTENTIAL
 TEMPERATURE
 ALKALINITY (CaCO₃)

pH
 SC
 Eh
 TEMP
 ALK

S.U.

μmhos/cm

mvolts

°C

mg/l

7.14
312
—
8.5
14.8
149

DETECTION

LIMIT

0.01
1
—
0.1
0.2

TIME	TOTAL VOLUME WITHDRAWN		pH	SC (μmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
1620	5	2.3	6.61	310	9	Very turbid - NO odor or sludge
1630	25	11.5	6.95	309	9	" " " " "
1635	50	23	7.00	308	9	clearing but still turbid
1645	75	34.5	7.10	309	8.5	" " " "
1650	85	39	7.02	309	8.5	" " " "
1655	100	46	7.1	309	8.5	Slightly turbid
1656	105	46	7.06	306	8	clear
						Developed for sampling

SAMPLES TYPES: (WSACODE)

D - DUPLICATE
 R - REPLICATE
 S - SPIKE
 K - KNOWN
 FB - FIELD BLANK
 TB - TRIP BLANK
 LB - LAB BLANK
 N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB
 B - BAILER
 PP - PERISTALTIC PUMP
 SL - SUCTION LIFT PUMP
 SP - SUBMERSIBLE PUMP
 AL - AIR-LIFT SAMPLER
 BP - BLADDER PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM LOG DATE 7/23/88 LOG TIME 1135
 LOCATION ID IS-08-01 (040) LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 040-0003 SAMPLE DEPTH (FT.) 25ft

INITIAL GROUNDWATER DEPTH (FT) 24'58" (TOC) 37'5" (TD)
 SAMPLING PERIOD: START 8/17/88 1230 COMPLETE 1330
 SAMPLING METHOD B LOGGER CODE SMB
 LAB CODE ELM DATE SENT 8/18/88
 PRESERVATION METHOD HCl, H₂SO₄ or HNO₃ added by lab - chill to 4°C
 COMMENTS Slight ROL odor - Duplicate taken here

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN
 SPECIFIC CONDUCTANCE
 REDOX POTENTIAL
 TEMPERATURE
 ALKALINITY (CaCO₃)

pH S.U.
 SC μ mhos/cm
 Eh mvolts
 TEMP °C
 ALK mg/l
 ALK Dup

7.10
395
-
8.5
272 272
264 264

DETECTION LIMIT

0.01
1
-
0.1
0.2
0.2

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μ mhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volumes				
	0.0	0.0	-	-	-	START PUMPING
1155	0	0	6.92	380	8	Slightly turbid odor & sheer
1205	5	2.5	7.08	360	7.5	Very turbid odor & sheer
1210	10	5	7.11	360	8	" " "
1240	20	10	7.24	390	8	dk brown turbid, odor & sheer
1305	30	15	7.26	389	8	" " "
1320	40	20	7.24	390	8	dk brown, odor & sheer
1335	50	25	7.17	390	8	" " "
1358	60	30	7.21	390	8	" " "
1324	65	32.5	7.00	400	10	turbid - slight odor - no sheer
1320	75	37.5	7.02	400	8.2	brown turbid, odor & sheer
1340	85	42.5	6.97	410	8.5	" "
1357	94	47.5 47	7.15	400	8.5	" "

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 2 OF 2

INSTALLATION ID ELM LOG DATE 7/23-25/88 LOG TIME 1643 (7/25)
LOCATION ID IS-08-01 (040) LOT CONTROL NO. _____
SAMPLE TYPE H₂O SAMPLE ID 040 SAMPLE DEPTH (FT.) _____

[illegible]

PAGE 1 OF 2

INITIAL GROUNDWATER DEPTH (FT) 8.5 ft 8/22 - 8.69 ft (TOC)
 SAMPLING PERIOD: START 8/23/84 1420 COMPLETE 1430
 SAMPLING METHOD B LOGGER CODE SN3
 LAB CODE RWAL DATE SENT 9/23/84
 PRESERVATION METHOD HCl & H₂SO₄ pre-added by lab - Chill to 4°C
 COMMENTS TD = 23, 14.5' H₂O in pipe which = 2.5 gal. 1
Pumped 112 gal out of well to develop

**DETECTION
LIMIT**

POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.92</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	<u>400</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	$^{\circ}\text{C}$	<u>9.0</u>	<u>0.1</u>
ALKALINITY (CaCO_3)	ALK	mg/l	<u>274.0</u>	<u>0.2</u>

[illegible]

SAMPLE METHODS: (WSMCODE)

D -	DUPLICATE	FB -	FIELD BLANK
R -	REPLICATE	TB -	TRIP BLANK
S -	SPIKE	LB -	LAB BLANK
K -	KNOWN	N -	NORMAL

G - GRAB	SP - SUBMERSIBLE PUMP
B - BAILER	AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP	BP - BLADDER PUMP
SL - SUCTION LIFT PUMP	

PAGE 1 OF 2

INITIAL GROUNDWATER DEPTH (FT) 35.5' 8/22/88 36.29 ft (Toc)
SAMPLING PERIOD: START 8/22 - 1500 COMPLETE 1515
SAMPLING METHOD B LOGGER CODE SMR
LAB CODE RNAL DATE SENT 8/23/88
PRESERVATION METHOD HC (of H₂SO₄) added by lab Chill to 4°C
COMMENTS TD = 50.3', water up pipe = 14.8', which = 2.4 gal.

**DETECTION
LIMIT**

$$\begin{array}{r} 719 \\ - 340 \\ \hline 8 \\ 157.2 \\ - 153.2 \\ \hline \end{array}$$
$$\begin{array}{r} 0.01 \\ 1 \\ \hline 0.1 \\ 0.2 \end{array}$$

All Rep

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μ mhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volumes				
1215	0.0	0.0	-	-	-	START PUMPING
1350	90	36	7.13		9.0	moderately turbid,
1353	92	37	7.25	347	8.0	slightly turbid " 3 gpm
1358	110	44	7.27	354	7.5	slightly turbid
						Adequately developed
						and sampling.
						Final Depth to H ₂ O = 36.6'

SAMPLE METHODS. (WSMCODE)

G - GRAB
B - BAILER
PP - PERISTALTIC PUMP
SL - SUCTION LIFT PUMP

SP - SUBMERSIBLE PUMP
AL - AIR-LIFT SAMPLER
BP - BLADDER PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

ECM
 INSTALLATION ID 0687 LOG DATE 7/28/88 LOG TIME 1045
 LOCATION ID SP2/SP6 - 01 (OSI) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 051-0002 SAMPLE DEPTH (FT.) 41 ft (loc)

INITIAL GROUNDWATER DEPTH (FT) 40.8 ft
 SAMPLING PERIOD: START 8/10/88 1300 COMPLETE 1315
 SAMPLING METHOD _____ LOGGER CODE Dugan & Smith
 LAB CODE RWAL DATE SENT 8/11/88
 PRESERVATION METHOD 1450u HCL & HNO3 add by lab
 COMMENTS Casing starting 2.5 ft large rock 2.5 gal/min
Total depth of casing = 53.2 ft

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.09</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>360</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>8.2</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>240</u>	<u>-</u>

TIME	TOTAL VOLUME WITHDRAWN		pH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
1045	5	2	6.78	330	9	known, very turbid water
1105	25	10	7.27	352	8.5	" " "
1115	50	20	7.26	351	8.5	turbid but clearing
1130	75	30	7.28	350	8.5	" " "
1145	100	40	7.24	350	9	turbid slight
1150	105	42	7.22	353	9	very slight discoloration
						- adequately developed for sampling

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID E1 LOG DATE 7-28-88 LOG TIME 1710
 LOCATION ID SP216-02 (052) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 052-0002 SAMPLE DEPTH (FT.) 29'-6"

INITIAL GROUNDWATER DEPTH (FT) 32.49
 SAMPLING PERIOD: START 8/10/84 1555 COMPLETE 1616
 SAMPLING METHOD B LOGGER CODE SN3
 LAB CODE RMAL DATE SENT 8/11/84
 PRESERVATION METHOD HCl HAcOH + HNO3 added by lab
 COMMENTS _____

Slight odor & shen water when purging

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.96</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	μ mhos/cm	<u>345</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	$^{\circ}$ C	<u>90</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>236</u>	<u>-</u>

TIME	TOTAL VOLUME WITHDRAWN		pH	SC (μ mhos/cm)	TEMP. ($^{\circ}$ C)	COMMENTS
	(GALS)	Bore Volume(s)				
1636	0.0	0.0	-	-	-	START PUMPING
1642	20.0		6.73	45	18	1642
1650	50.0		7.15	35	18	
1657	75.0		8.17	45	18	
1702	90.0		8.15	45	18	
1705	100.0		8.16	45	18	

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID Elm 0687 LOG DATE 8/10/88 LOG TIME 1350
 LOCATION ID SP 2/6 - 03 (653) LOT CONTROL NO. —
 SAMPLE TYPE N SAMPLE ID ~~88-053-000~~ SAMPLE DEPTH (FT.) 38 ft

INITIAL GROUNDWATER DEPTH (FT) 37.5' 37.55 ft (100)
 SAMPLING PERIOD: START 8/13/88 0930 COMPLETE 0930
 SAMPLING METHOD B LOGGER CODE S213
 LAB CODE R1442 DATE SENT 8/13/88
 PRESERVATION METHOD chill to 4°C, Add HCl, H₂SO₄, or HNO₃
 COMMENTS TD = 51.3, 13.8 = well volume, 2.3 gal

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.07</u>	<u>6.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>3700</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	°C	<u>7.2</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>227.3</u>	<u>0.1</u>
	ALK Dup		<u>222.7</u>	<u>0.1</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
1415	0.0	0.0	-	-	-	START PUMPING
1425	76	20	7.48	408	8.5	very turbid, brown-grey
1437	69	30	7.25	399	7.0	turbid brown grey, 3-4 gpm
1443	92	40	7.18	392	7.0	slightly turbid brown grey
1458	115	50	7.18	370	7.0	very slightly turbid, 3-4 gpm
1510	139	60	7.18	370	7.0	clear to very slightly turbid
						Adequately developed for sampling
		1525	Final Water Depth = 37.6 ft.			

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID Elm (0687) LOG DATE 8/10/88 LOG TIME 1120
 LOCATION ID SP-2/6-04 (054) LOT CONTROL NO. —
 SAMPLE TYPE N SAMPLE ID 054-0002 SAMPLE DEPTH (FT.) 38ft

INITIAL GROUNDWATER DEPTH (FT.) 35.10' 38.30ft (TCC)
 SAMPLING PERIOD: START 8/13/84 0840 COMPLETE 0848
 SAMPLING METHOD B LOGGER CODE S113
 LAB CODE 2004L DATE SENT 8/13/88
 PRESERVATION METHOD HCl, H₂SO₄, or HNO₃ added by lab
 COMMENTS TD = 53.0', 18' of water in pipe,
= 3 gal of well vol.

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.74</u> <u>6.98</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	umhos/cm	<u>332</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	°C	<u>7.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>63.4</u>	<u>0.1</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (umhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
1133	0.0	0.0	-	-	-	START PUMPING
1156	45	15	7.16	352	8.0	turbid, gray very slight H ₂ S odor
1202	60	20	7.18	320	6.8	turbid gray no odor
1208	75	25	7.21	338	6.8	mod turbid gray " 4 4 gpm
1221	90	30	7.2	340	7.0	slightly turbid gray " " 3-4 gpm
1226	105	35	7.21	339	7.0	slightly turbid gray " "
1232	120	40	7.18	340	7.0	slightly turbid gray " 3-4 gpm
1240	135	45	7.21	328	7.0	slightly turbid, 3-4 gpm
1252	150	50	7.20	340	7.0	very slightly turbid 1 gpm - MB
						Adequately developed
						for sampling

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID Elm 069 LOG DATE 8/11/88 LOG TIME 1500
 LOCATION ID SP2/G -05 LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID C055-0003 SAMPLE DEPTH (FT.) 33 ft

INITIAL GROUNDWATER DEPTH (FT) 32.2' 32.97 ft (100)
 SAMPLING PERIOD: START 8/16/88 0955 COMPLETE 89 1000
 SAMPLING METHOD B LOGGER CODE SM13
 LAB CODE RNAL DATE SENT 8/17/88
 PRESERVATION METHOD HCl or H2SO4 added by lab Chill to 4°C
 COMMENTS TD = 48.0' water in pipe = 15.2' which = 2.5 gal
Strongy POL odor

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.02</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	<u>345</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	$^{\circ}\text{C}$	<u>9.0</u>	<u>0.1</u>
ALKALINITY (CaCO_3)	ALK	mg/l	<u>224</u>	

TIME	TOTAL VOLUME WITHDRAWN		PH	SC ($\mu\text{mhos/cm}$)	TEMP ($^{\circ}\text{C}$)	COMMENTS
	(GALS)	Bore Volumes				
1520	0.0	0.0	-	-	-	START PUMPING
1636	55	22	7.76	330	8°C	Gray turbid ^{POL small} _{sheen solid} ^{fluctu}
1645	65	26	7.47	345	7°	Gray mod turbid " "
1649	75	30	7.37	340	7.5°C	" sl turbid
						Adequately developed
						for sampling
						Final H ₂ O depth = 32.8'

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 LOG DATE 8/10/88 LOG TIME 1335
 LOCATION ID W-16 SP2/6 LOT CONTROL NO. —
 SAMPLE TYPE N SAMPLE ID 061-0001 SAMPLE DEPTH (FT.) 32

INITIAL GROUNDWATER DEPTH (FT) 32.07
 SAMPLING PERIOD: START 1410 COMPLETE 1435
 SAMPLING METHOD B LOGGER CODE Am
 LAB CODE RNAL DATE SENT 8/11/88
 PRESERVATION METHOD Chill to 4°C, add HCL, HNO₃ by lab
 COMMENTS —

FINAL PARAMETER MEASUREMENTS:

DETECTION LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.0</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>360</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	°C	<u>9.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>248</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
1352	4	1	6.96	355	9.0	cloudy, slight PO ₂ odor + H ₂ S odor
1400	8	2	7.01	362	9.0	No odor; cloudy
1405	12	3	7.00	360	9.5	No odor; "

SAMPLES TYPES (WSACODE)

D - DUPLICATE	FB - FIELD BLANK
R - REPLICATE	TB - TRIP BLANK
S - SPIKE	LB - LAB BLANK
K - KNOWN	N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB	SP - SUBMERSIBLE PUMP
B - BAILER	AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP	BP - BLADDER PUMP
SL - SUCTION LIFT PUMP	

GROUND WATER QUALITY SAMPLING RECORD

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INSTALLATION ID 0687 LOG DATE 8/10/88 LOG TIME 1900
 LOCATION ID 062-0001 Spale GWA LOT CONTROL NO. -
 SAMPLE TYPE Water - N SAMPLE ID 062-0001 SAMPLE DEPTH (FT.) 31

INITIAL GROUNDWATER DEPTH (FT) 31.62
 SAMPLING PERIOD: START 1515 COMPLETE 1530
 SAMPLING METHOD B LOGGER CODE NM
 LAB CODE RMAL DATE SENT 8/11/88
 PRESERVATION METHOD Chill to 4°C Add H₂SO₄ or HNO₃
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.03</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>340</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>8.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>246</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
	0.0	0.0	-	-	-	START PUMPING
1505	1	1	7.06	349	9.0	turbid petroleum odor
1507	2	2	7.1	340	8.0	+ sheen
1510	3	3	7.03	340	8.0	"

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

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INSTALLATION ID Elm 0687 LOG DATE 8/9/88 LOG TIME 1540
 LOCATION ID SP4 - 07W LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 063-0003 SAMPLE DEPTH (FT.) 5 ft

INITIAL GROUNDWATER DEPTH (FT) 5.30 ft (TOC)
 SAMPLING PERIOD: START 1555 8/2/88 1415 COMPLETE 1425
 SAMPLING METHOD B LOGGER CODE S113
 LAB CODE 21WAL DATE SENT 8/13/88
 PRESERVATION METHOD Chill to 4°C Add H₂SO₄ or HCl or P₂O₅
 COMMENTS 27.4 ft to bottom of well, 2.5' pvc stick-up,
22.1' of GW. in pipe and 3.7 gal.

FINAL PARAMETER MEASUREMENTS:

DETECTION

LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.10</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>292</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	
TEMPERATURE	TEMP	°C	<u>9.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>137.6</u>	<u>0.4</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
1555	0.0	0.0	-	-	-	START PUMPING
1604	15	4	7.84	275	8.9	very turbid, dark brown, 3gpm
1608	22	7	7.50	262	7.7	very turbid, 3gpm
1610	30	9	7.43	261	7.4	turbid
1614	45	12	7.44	261	7.4	moderately turbid, 3-4 gpm
1622	57	15	7.36	258	7.6	moderately turbid, 3-4 gpm
1625	67	18	7.38	256	7.6	moderately turbid, 3-4 gpm
1628	75	20	7.35	257	7.5	slightly turbid, 3-4 gpm
1632	83	22	7.35	257	7.5	very slightly turbid
1635	90	24	7.31	257	7.4	very slightly turbid
						Adequately developed for sampling.

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

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INSTALLATION ID ELM 0687 LOG DATE 8/12/88 LOG TIME 1350 HRS
 LOCATION ID SP4-02 LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 064-0003 SAMPLE DEPTH (FT.) 6 ft

INITIAL GROUNDWATER DEPTH (FT) 5.67 ft
 SAMPLING PERIOD: START 1350 HRS ^{8/16/88} 1045 COMPLETE 1430 HRS 1055
 SAMPLING METHOD B LOGGER CODE 8013
 LAB CODE RWAL DATE SENT 8/17/88
 PRESERVATION METHOD HCl or H2SO4 added By lab Chill to 4°C
 COMMENTS TID = 27.4 FT STANDING H2O = 21.8 FT
21.8 ÷ 6 = 3.63 GAL = PORE VOLUME

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	PH	S.U.	<u>7.29</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>255</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.8</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>220</u>	<u>-</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
1355	0.0	0.0	-	-	-	START PUMPING
1410	60	16.5	7.55	252	10.0	TURBID - 7 GPM
1416	80	22.0	*	250	8.0	MODERATELY TURBID 7 GPM
1423	100	27.5		240	7.0	"
1430	120	33.0		240	7.0	
						ADEQUATELY DEVELOPED FOR SAMPLING
						FINAL DEPTH TO H2O = 5.7'

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

* PH METER INOPERABLE

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

ELM

INSTALLATION ID SP4-03 LOG DATE 8-23-88 LOG TIME 9 1345
 LOCATION ID SP4-03 LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 065-0003 SAMPLE DEPTH (FT.) 40 ft

INITIAL GROUNDWATER DEPTH (FT) 36'-7" 8/24 - 39.68 ft

SAMPLING PERIOD: START 8/24/88 - 0925 COMPLETE 0935

SAMPLING METHOD B LOGGER CODE 2MB

LAB CODE DNAL DATE SENT 8/30/88

PRESERVATION METHOD HClO4 + H2SO4 added by lab

COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN

pH

S.U.

5.30

DETECTION
LIMIT

0.01

SPECIFIC CONDUCTANCE

SC

μ mhos/cm

340

1

REDOX POTENTIAL

Eh

mvolts

6.5

TEMPERATURE

TEMP

°C

6.5

0.1

ALKALINITY (CaCO₃)

ALK

mg/l

268.0

0.2

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μ mhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
1345	0.0	0.0	-	-	-	START PUMPING
1350	5.0	2.5	ND	ND	ND	ND
1400	10.0	5				
1405	20.0	10				
1410	30.0	15				
1415	40.0	20				
1420	50.0	25				
1425	60.0	30				
1430	70.0	35				
1435	80.0	40				

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID SLM LOG DATE 7/19/88 LOG TIME 1300
 LOCATION ID SP5-1 (072) LOT CONTROL NO. _____
 SAMPLE TYPE Water SAMPLE ID 072-0003 SAMPLE DEPTH (FT.) 37ft + 10c

INITIAL GROUNDWATER DEPTH (FT) 37ft + (10c)
 8/4/88 SAMPLING PERIOD: START 1115 COMPLETE 1122
 SAMPLING METHOD B LOGGER CODE SNB
 LAB CODE RNAL DATE SENT 8/5/88
 PRESERVATION METHOD Chill to 4°C HCL H2SO4 + HNO3 added
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.32</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>605</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>489.6</u>	<u>0.4</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
	0.0	0.0	-	-	-	START PUMPING
1305	0	0	7.29	600	7.5	Clear
1310	2	1	7.41	600	6	Slightly turbid
1315	5	2.5	7.43	590	6	Turbid
1330	7	3.5	6.99	600	6	Turbid
1340	12.5	7	7.5	600	7	Turbid
0850	12.5	7	7.26	600	7 1/2	clear, no odor
0905	17.5	9.5	7.41	600	7 1/2	gray brown turbid, no odor
0925	19.5	13	7.35	600	7 1/2	gray brown turbid, faint odor
0945	25	16	7.43	600	7	"
						Developed sufficiently for sampling

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 LOG DATE 7/19/88 LOG TIME 1355
 LOCATION ID SPS-02 (073) LOT CONTROL NO. _____
 SAMPLE TYPE WATER SAMPLE ID 073-0003 SAMPLE DEPTH (FT.) 22 ft *TOC*

INITIAL GROUNDWATER DEPTH (FT.) 22 ft
 SAMPLING PERIOD: START 1355 7/19/88 COMPLETE 1405
 SAMPLING METHOD B LOGGER CODE SWB
 LAB CODE RNAL DATE SENT 7/20/88
 PRESERVATION METHOD _____
 COMMENTS Casing sticking 2 ft above ground surface

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.13</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>720</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>9.9</u>	<u>0.00.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>468.8</u>	<u>0.1</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	(Bore Volume)				
	0.0	0.0	-	-	-	START PUMPING
1420	20.0	8.7	6.84	720	11.5	Turbid
1440	30.0	13.0	7.18	620	9	turbid
1745	40.0	17.6.99	6.99	700	9	turbid
1800	43.0	18.7	6.93	700	11	turbid
1130	47.0	20	6.89	740	9.8	slightly turbid
1300	53.0	23	7.09	720	9.8	fairly turbid
1345	56	24.3	7.13	720	9.9	clean
1355	57	24.8	7.13	720	9.9	clean
						developed See Sampling

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAKER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID SLM 0687 LOG DATE 7/20/84 LOG TIME 1010
 LOCATION ID SP5-06 (077) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 077-0004 SAMPLE DEPTH (FT.) 35 ft (TCC)

INITIAL GROUNDWATER DEPTH (FT.) 34.81 ft (TCC)
 SAMPLING PERIOD: START 1510 COMPLETE 1520
 SAMPLING METHOD B LOGGER CODE smB
 LAB CODE RWML DATE SENT 8/5/84
 PRESERVATION METHOD Chill to 4°C. Add Hcl H2SO4 or HNO3
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.17</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>580</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	
TEMPERATURE	TEMP	°C	<u>7.00</u>	<u>0.01</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>400</u>	<u>5</u>

TIME	TOTAL VOLUME WITHDRAWN <u>25W</u>		pH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
1010	0.0	0.0	-	-	-	START PUMPING
1024	3.0	1.2	6.53	600	5.0	very turbid - Bk pump
1045	13.0	5.2	7.39	580	5.5	very turbid
1100	15.0	6				switch to Teflon lines
1158	23.0	9.2	7.41	500	5.0	- boiled nearly dry
1235	28.0	11.2	7.53	500	5.2	
1310	33.0	13.2	7.44	500	3.5	temp up? turbid
1330	36.0	14.4	7.24	550	3.5	
1350	39.0	15.6	7.19	550	3.5	Temp peggol - sl turbid
1410	42.0	16.8	7.32	550	3.5	sl turbid
						Adaptate for development

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM LOG DATE 7/20/88 LOG TIME 1530
 LOCATION ID SP5-7 LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 078-0003 SAMPLE DEPTH (FT.) 34.64m

INITIAL GROUNDWATER DEPTH (FT) 34.64 (6" (TOC) 50' 5" TD

SAMPLING PERIOD: START 8/5/88 1300 COMPLETE 1315
 SAMPLING METHOD B LOGGER CODE SB
 LAB CODE PW12 DATE SENT 8/6/88
 PRESERVATION METHOD Chill to 4°C Add HCL, H₂SO₄ or HNO₃
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.63</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>700</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>5.9</u>	<u>0.01</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>560</u>	<u>2.0</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
	0.0	0.0	-	-	-	START PUMPING
1540	0	0	7.33	310	10°	sl. gray turbid, v. faint odor
1610	4	2	7.88	385	8 1/2	very turbid - gray
1705	4 1/2	2	7.72	440	8	very turbid - gray
1740	4.5	2	7.00	600	6.5	
1852	9.5	4				5 gallons purged = dry
1920	10.5	4.5	7.43	590	6.5	
1952			7.32	650	7.0	
1405	12.0	6	7.34	630	6.5	
1417	13.0	6.5	7.29	640	7.0	clear
						Discontinued

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM LOG DATE 7/8 - 7/9 1988 LOG TIME 1200 (7/8/88)
 LOCATION ID SD-5-08 LOT CONTROL NO. _____
 SAMPLE TYPE Water SAMPLE ID 0687-UG-079 SAMPLE DEPTH (FT.) (5ft) DOC
570-88-0003

INITIAL GROUNDWATER DEPTH (FT) 15ft 10" (DOC) 27ft 6" TD
 SAMPLING PERIOD: START 8/4/84 1540 COMPLETE 1548
 SAMPLING METHOD Teflon Bailor LOGGER CODE SWB
 LAB CODE Rmr DATE SENT 8/5/84
 PRESERVATION METHOD Chill to 4°C Add HCl to SO₄ or HNO₃
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.42</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>255</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>6.5</u>	<u>0.01</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>202.8</u>	<u>0.1</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volumes				
	0.0	0.0	-	-	-	START PUMPING
7/8 1200	7	2.5	7.5	313	14°C	date: 7/8/88
7/9 0830	10	2.5	7.4	328	13°C	Slightly Cloudy 7/9/88
0915	13	4.8	7.7	309	11°C	gray, cloudy "
1033	15	6.0	7.6	308	10°C	" "
1050	17	7.0	7.59	293	9°C	" "
1115 1440	17	7.0	6.91	230	12°	Slightly cloudy
1450	21	9.0	7.00	250	7°	turbid
1510	25	11.0	7.27	272	7°	Very turbid
7/9 1010	25	11.0	7.54	220	6°	very slightly turbid - no odor
1015	30	13.0	7.01	230	6°	Very turbid - no odor
1020	32	14.0	7.49	240	6	turbid - "
1045	35	15.5	7.51	250	7	Slightly turbid - "

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

1055 38 15.5 7.58 260 7 -- Allowed to recheck slightly turbid

Developed sufficiently to sample

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM LOG DATE 7/20/88 LOG TIME 1100
 LOCATION ID SP-5-10 LOT CONTROL NO. _____
 SAMPLE TYPE WATER SAMPLE ID 081-000 3 SAMPLE DEPTH (FT.) 3ft (TOL)

INITIAL GROUNDWATER DEPTH (FT) 2ft 11" (TOL) 4D = 10ft 10"
 SAMPLING PERIOD: START 8/5/88 1530 COMPLETE 1540
 SAMPLING METHOD B LOGGER CODE 2MB
 LAB CODE RMAL DATE SENT 8/6/88
 PRESERVATION METHOD Chill to 4°C Add HCL H2SO4 H2O2 DEP on test
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.47</u>	DETECTION LIMIT	<u>6.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>620</u>		<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>		<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.5</u>		<u>7.5</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>520</u>		<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
1110	0.0	0.0	7.22	600	12.0	slight turbid, green, ^{strong} odor, etc.
1120	2.0	0.0 1.2	7.33	370	10	Very turbid & thick, bristled clay
1220	4.0	2.4	6.92	650	9.8°	exhibits pet. odor & green ^{3'}
1305	4.5	2.7	7.29	650	8.0	well not fully recovered
1320	3.0		7.15	590	8.5	Delete (entry for SP5-07)
1340	5.0	3.0	7.35	640	8.5	clear enough
						developed sufficient for
						sampling - temp affected by
						weather & time lag

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

ELM

INSTALLATION ID SPS-22 LOG DATE 8-24-88 LOG TIME 1345
 LOCATION ID SPS-20 LOT CONTROL NO. —
 SAMPLE TYPE N SAMPLE ID 126-0003 SAMPLE DEPTH (FT.) 3 ft (TC)

INITIAL GROUNDWATER DEPTH (FT) 1'-0" 8/24/88 - 2.92 ft (TC)
 SAMPLING PERIOD: START 8/24/88 0830 COMPLETE 0835
 SAMPLING METHOD B LOGGER CODE SMB
 LAB CODE RNAL DATE SENT 8/30/88
 PRESERVATION METHOD HCl or H₂SO₄ added by lab
 COMMENTS —

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.06</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>360</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	°C	<u>2.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>197.6</u>	<u>0.2</u>

TIME	TOTAL VOLUME WITHDRAWN		pH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
<u>1345</u>	<u>0.0</u>	<u>0.0</u>	<u>-</u>	<u>-</u>	<u>-</u>	START PUMPING
<u>1353</u>	<u>5.0</u>		<u>8.10</u>	<u>6</u>	<u>11</u>	Direction Instruments (S.M.)
<u>1415</u>	<u>10.0</u>		<u>8.21</u>	<u>6</u>	<u>11</u>	
<u>1435</u>	<u>14.0</u>		<u>8.20</u>	<u>6</u>	<u>11</u>	
<u>1455</u>	<u>17.0</u>		<u>8.21</u>	<u>6</u>	<u>11</u>	

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

well volume 16 gal

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM 0687 LOG DATE 7/21/88 LOG TIME 1430
 LOCATION ID SPSA-15 (067) LOT CONTROL NO. (067)
 SAMPLE TYPE N SAMPLE ID 067-0004 SAMPLE DEPTH (FT.) 11.5 ft TOC

INITIAL GROUNDWATER DEPTH (FT.) 11.3 ft
 8/5/88 SAMPLING PERIOD: START 1445 COMPLETE 1455
 SAMPLING METHOD B LOGGER CODE SVB
 LAB CODE RMAL DATE SENT 8/6/88
 PRESERVATION METHOD Chill to 4°C, HCL H₂SO₄ HNO₃ added for certain data
 COMMENTS Depth from TOC to bottom of well = 21.8 ft
Well bailed dry after 2 gal. During pumping prior to sampling

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN
 SPECIFIC CONDUCTANCE
 REDOX POTENTIAL
 TEMPERATURE
 ALKALINITY (CaCO₃)

pH S.U. 8.57
 SC μ mhos/cm 820
 Eh mvolts -
 TEMP °C 8.5
 ALK mg/l 634

DETECTION
LIMIT

0.01
1
-
0.1
2

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μ mhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
	0.0	0.0	-	-	-	START PUMPING
1430	0	0	7.26	800	7.5	initial sample before developing
1439	2	1.3				
1440	3	1.9	7.62	830	7.5	well not fully recovered since
1445	3.5	2.2	7.70	780	7.7	
0850	5.5	3.5	6.99	720	9.0	initial test before pumping
0900	5.5	3.5	7.70	750	7.4	bailed dry in 3 minutes
0918	5.8	3.7	7.93	790	7.2	
						well extremely slow to
						recharge - adequately
						developed for sampling

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 ELM LOG DATE 7/19/88 LOG TIME 1640
 LOCATION ID SP5A-16 (068) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 068-0004 SAMPLE DEPTH (FT.) 17 ft + 100

INITIAL GROUNDWATER DEPTH (FT) 165 ft + 100
 8/5/88 SAMPLING PERIOD: START 1420 COMPLETE 1430
 SAMPLING METHOD B LOGGER CODE 513
 LAB CODE DWAL DATE SENT 8/6/88
 PRESERVATION METHOD Chill to 4°C HCl H2SO4 H2O2 add for certain tests
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.86</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>1020</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.0</u>	<u>0.0</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>1094</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
1640	0.0	0.0	-	-	-	START PUMPING
1740	5	5				
1830	H					
1450	11	11	6.88	8	inop	turbid : purged down 6 gallons
1515	13	13	6.99	8	inop	slightly turbid : wait for recharge
1530	15	15	6.97	1380	8	Meter OK after pushing in probe jack
1550	17	17	7.00	1360	9	keep variable due to heat of probe & heater & water
1630	19	19	6.91	1340	8.8	
						Considered developed

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID (0687) SLM LOG DATE 7/11/88 LOG TIME Varies see below
 LOCATION ID SP 5A 18 (070) LOT CONTROL NO. -
 SAMPLE TYPE WATER N SAMPLE ID 0687-06-070 SAMPLE DEPTH (FT.) 14ft 4in to

INITIAL GROUNDWATER DEPTH (FT.) 14ft 4in (TOC) TD = 20ft 7in
 SAMPLING PERIOD: START 1405 COMPLETE 1415
 SAMPLING METHOD Teflon Bailor LOGGER CODE 2113
 LAB CODE Emm DATE SENT 7/20/88
 PRESERVATION METHOD Varies according to test
 COMMENTS 418.1 - H-SCN 160.1 - NEAT 800.0 - HCL
Chill all to 4°C

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.17</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>320</u>	<u>0.01</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>8.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>170</u>	<u>1</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
7/11 1225	0.0	0.0	-	-	-	START PUMPING
1725	2.0	2.0	6.49	448	8	turbid - brown
7/13 1030	2.00	2.0	5.93	408	8	Slight turbidity
1040	5.00	5.0	6.04	410	8	Very turbid - hazy
1100	7.5	7.5	6.25	410	8	turbid
1110	8.0	8.0	6.33	410	8	turbid
1115	8.0	8.0	6.29	400	7	Slightly turbid
						Developed for sampling

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM LOG DATE 7/11/88 LOG TIME 1230
 LOCATION ID SP-SI-19 LOT CONTROL NO. _____
 SAMPLE TYPE WATER SAMPLE ID 071-0004 SAMPLE DEPTH (FT.) 16.1 ft TOC

INITIAL GROUNDWATER DEPTH (FT) 15.8 ft (TOC)
 8/5 83 SAMPLING PERIOD: START 1348 COMPLETE 1405
 SAMPLING METHOD Tifton Bailer LOGGER CODE SM3
 LAB CODE RNAL DATE SENT 8/6/88
 PRESERVATION METHOD Chill to 40C ACL H2SO4 HNO3 added depending on test
 COMMENTS casing sticking above ground surface = 2.5 ft

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.09</u>	<u>0.1</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>350</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>6.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>400 259</u>	<u>2</u>
		ALK duplicate	<u>294</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	(Bore Volume)				
1230	0.0	0.0	-	-	-	START PUMPING
1235	0.0		6.78	400	7	Very Turbid
1245	5.0	5	6.83	375 375	6.5	Very Turbid
1255	10.0	10	6.87	380	6.5	"
1300	15.0	15	6.97	362	7.0	"
1305	20.0	20	6.77	365	7.0	"
1310	25.0	25	6.92	365	6.5	"
7/14 1705	25.0	25	6.86	397	6	clear - slight turbid
1715	30.0	30	6.87	380	7 1/2	very Turbid
1720	35.0	35	6.98	375	7.5	very Turbid
7/19 1540 - 1545	42.0	42	6.78	395	8.0	clear 15.8 ft TOC
1615	45.0	45	6.87	395	8.2	clear 16.1 ft TOC
						developed for sampling

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID SP7/10-01 LOG DATE 7-27-88 LOG TIME 1400
 LOCATION ID SP7/10 LOT CONTROL NO. 884
 SAMPLE TYPE N SAMPLE ID 084-0003 SAMPLE DEPTH (FT.) 15 ft

INITIAL GROUNDWATER DEPTH (FT) 15 ft 15.00 ft (rac)
 SAMPLING PERIOD: START 8/15/88 0925 COMPLETE 0935
 SAMPLING METHOD B LOGGER CODE 8uv3
 LAB CODE RMAL DATE SENT 8/16/88
 PRESERVATION METHOD HCl, H₂SO₄ add prev. Chill to 4°C.
 COMMENTS NO odors at Shem

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.11</u>	<u>0.1</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>405</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvols	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>124</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volumes				
	0.0	0.0	-	-	-	START PUMPING
1255	15.0		6.88	50	9°	1242
1300	45.0		7.20	45	8.5	
1305	55.0		7.17	42	7.5	
1307	55.0		7.27	42	7.5	
1310	80.0		7.24	42	7.5	
1313	90.0		7.27	42	7.5	
1316	100.0		7.26	42	7.5	
1320	110.0		7.26	42	7.5	1323

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0457 ^{ELM} LOG DATE 7/27/88 LOG TIME 1315
 LOCATION ID SP7/10 - 02 (085) LOT CONTROL NO. —
 SAMPLE TYPE N SAMPLE ID 085-0003 SAMPLE DEPTH (FT.) 16 1/2 ft

INITIAL GROUNDWATER DEPTH (FT) 16.35 ft (70c)
 SAMPLING PERIOD: START 8/15/88 0845 COMPLETE 0855
 SAMPLING METHOD B LOGGER CODE SmB
 LAB CODE PMAL DATE SENT ~~8/14/88~~ 8/16/88
 PRESERVATION METHOD Chill to 4°C, HCl or H2SO4 pres. added by lab
 COMMENTS Top of casing flush with ground surface

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.98</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>481</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	°C	<u>6.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>162</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volumes				
	0.0	0.0	-	-	-	START PUMPING
1315	5	3.5	6.77	650	10	Brown turbid NO strong odor
1330	25	17.5	7.24	580	8	" " "
1345	50	35	7.36	520	7.5	Closing but still turbid
1350	75	42.5	7.29	500	8	Slightly turbid
1400	100	60	7.29	500	7.5	"
1405	110	67	7.24	500	7.5	very slightly turbid
						Developed - sufficient
						to allow sampling

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM 0687 LOG DATE 5 Aug 88 LOG TIME 1107
 LOCATION ID SP7/AP10-03 (086) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 056-0003 SAMPLE DEPTH (FT.) 25 ft

INITIAL GROUNDWATER DEPTH (FT) 25.3 ft TOC 8/15/88 25.45 ft
 SAMPLING PERIOD: START 8/15/88 1040 COMPLETE 1050
 SAMPLING METHOD B LOGGER CODE 8113
 LAB CODE RNAL DATE SENT 8/16/88
 PRESERVATION METHOD HCl or H₂SO₄ added by lab chill to 4°C
 COMMENTS Casing sticking above ground = 2.5 ft BK pump
Well depth (TOC) = 32.6 ft
1 borehole volume = 1.2 gallons

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>5.37</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	μmhos/cm	<u>230</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>8.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>74</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
1107	0.0	0.0	-	-	-	START PUMPING
1115	24	20	6.34	210	7.5	brown turbid, 5 gpm
1126	48	40	6.31	213	6.4	very slightly turbid, 5 gpm
1132	60	50	6.31	213	6.3	v. sl. turbid to clear, 5 gpm
1138	72	60	6.32	213	6.3	clear, 5 gpm
						developed adequately
						for sampling
						Final water level = 25.3 ft

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID Elm (668) LOG DATE 8/9/88 LOG TIME 0920
 LOCATION ID SPN/10-4 LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 087-0003 SAMPLE DEPTH (FT.) 22 ft

INITIAL GROUNDWATER DEPTH (FT) 19.4' 8/15/88 - 22.64 ft (top)
 SAMPLING PERIOD: START 0930 8/15/88 1200 COMPLETE 1210
 SAMPLING METHOD B LOGGER CODE S113
 LAB CODE RWAL DATE SENT 8/16/88
 PRESERVATION METHOD HCl or H2SO4 added by lab Chill to 4°C
 COMMENTS ID = 31.6 feet
12.2 ft of GW in pipe, and 2 gal H2O

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.72</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>415</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>8.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>156</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
0930	0.0	0.0	-	-	-	START PUMPING
0935	17	8.5	6.64	375	7.1	very turbid, PA odor, 3gpm
0942	35	18	6.94	405	6.5	very turbid, PA odor, 3gpm
0946	45	23	6.97	410	6.5	turbid, PA odor, 3gpm
0948	50	25	7.00	410	6.5	moderately turbid, 3gpm
0950	53	27	7.00	410	6.2	slightly turbid, 3gpm
0953	55	28	7.00	410	6.5	slightly turbid, very slight odor
						Developed adequately for sampling
						Final GW level = 19.4'

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0657 ^{ELM} LOG DATE 8/15/88 LOG TIME 1125
 LOCATION ID SP7/10 W-3 LOT CONTROL NO. —
 SAMPLE TYPE N SAMPLE ID 088-0001 SAMPLE DEPTH (FT.) 22ft

INITIAL GROUNDWATER DEPTH (FT) 22.00ft (100)
 SAMPLING PERIOD: START 8/11/88 COMPLETE 1135
 SAMPLING METHOD B LOGGER CODE 5713
 LAB CODE 01146 DATE SENT 8/16/88
 PRESERVATION METHOD HCl + H₂SO₄ added by lab Chill to 4°C
 COMMENTS Placed x111000 well installed 1/86
Contaminated - pure product encountered during P-190

FINAL PARAMETER MEASUREMENTS:

DETECTION LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.94</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>495</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	°C	<u>8.8°C</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>192</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
1106	0	0	6.96	500	9	1/2" pure prod. in bailer
1110	2.5	1	6.86	490	9	1/4" " " " "
1113	5	2	6.84	495	8.5	1/4" " " " "
1118	7.5	3	6.94	495	8.5	less pure product, strong odor & green

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM⁰⁶⁸⁷ LOG DATE 8/15/88 LOG TIME 1005
 LOCATION ID SP7/10 W-4 LOT CONTROL NO.
 SAMPLE TYPE N SAMPLE ID 089-0001 SAMPLE DEPTH (FT.) 14 ft

INITIAL GROUNDWATER DEPTH (FT) 13.75 ft (top)
 SAMPLING PERIOD: START 1005 COMPLETE 1015
 SAMPLING METHOD B LOGGER CODE 913
 LAB CODE PMAL DATE SENT 8/16/88
 PRESERVATION METHOD Chill to 4°C HCl or H₂SO₄ added by lab
 COMMENTS Well installed in 1986 - purge info below

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.99</u>	<u>0.1</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>452</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u> </u>	<u> </u>
TEMPERATURE	TEMP	°C	<u>9.1</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>178</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
0950	0	0	6.99	492	10°	clear Strong POL odor
0952	2.5	1	7.04	472	9°	turbid Strong POL odor
0958	5	2	6.99	465	9.1	" " " "
1001	7.5	3	6.99	458	9.1	" " " "

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 LOG DATE 8/12/88 LOG TIME 0820
 LOCATION ID 090-SP-11 GW-14 LOT CONTROL NO.
 SAMPLE TYPE N SAMPLE ID 090-0003 SAMPLE DEPTH (FT.) 3.7

INITIAL GROUNDWATER DEPTH (FT) 3.71
 SAMPLING PERIOD: START 0855 COMPLETE 0910
 SAMPLING METHOD B LOGGER CODE DM
 LAB CODE BDAL DATE SENT 8/13/88
 PRESERVATION METHOD Chill to 4°C; add HNO₃ or HCl by lab.
 COMMENTS

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.20</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>215</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	°C	<u>5.7</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>132.8</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
	0.0	0.0	-	-	-	START PUMPING
0843	3.5	1	7.05	215	6.0	water slightly cloudy
0848	7	2	6.97	220	5.8	" "
0852	10.5	3	7.19	215	5.8	" "
0854	12.0	3 1/2	7.2	215	5.7	(clear)

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 LOG DATE 8/12/88 LOG TIME 0900
LOCATION ID SP-11 GW 4A LOT CONTROL NO. —
SAMPLE TYPE N SAMPLE ID 091-0001 SAMPLE DEPTH (FT.) 6.60

INITIAL GROUNDWATER DEPTH (FT) 6.62
SAMPLING PERIOD: START 0930 COMPLETE 0935
SAMPLING METHOD B LOGGER CODE 0 DM
LAB CODE RMR DATE SENT 8/13/88
PRESERVATION METHOD Chill to 4°C. Add HCl or HNO₃ by lab
COMMENTS Ambient conditions blank collected here

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.96</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	<u>265</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	°C	<u>8.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>164.8</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC ($\mu\text{mhos/cm}$)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
0923	1.5	1	7.01	230 255	8.0	clear with orange particulates, for later
0925	3	2	6.99	275	8.5	turbid brown with shear & den
0927	4.5	3	6.96	265	8.0	" "

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
R - REPLICATE TB - TRIP BLANK
S - SPIKE LB - LAB BLANK
K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
B - BAILER AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP BP - BLADDER PUMP
SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 LOG DATE 8/2/88 LOG TIME 1030
 LOCATION ID SP-12 W-9 LOT CONTROL NO. —
 SAMPLE TYPE N SAMPLE ID 092-0001 SAMPLE DEPTH (FT.) 23

INITIAL GROUNDWATER DEPTH (FT) 23.18
 SAMPLING PERIOD: START 1120 COMPLETE 1130
 SAMPLING METHOD B LOGGER CODE DM
 LAB CODE RNAL DATE SENT 8/13/88
 PRESERVATION METHOD Chill to 4°C. Add HCl or HNO₃ by lab-
 COMMENTS Ambient Conditions blank collected

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.21</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>500</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	°C	<u>7.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>293.5</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
	0.0	0.0	-	-	-	START PUMPING
1053	3	1	7.09	483	7.09	brown turbid, no odor
1055	6	2	7.21	510	7.21	" "
1058	9	3	7.21	500	7.21	becoming clearer

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 X - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 ELM LOG DATE 8/12/88 LOG TIME 1150
 LOCATION ID GW-3A (SP-12) LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 043-0001 SAMPLE DEPTH (FT.) 23 ft

INITIAL GROUNDWATER DEPTH (FT.) 23.18 ft (TOC)
 SAMPLING PERIOD: START 1212 COMPLETE 1218
 SAMPLING METHOD B LOGGER CODE SWB
 LAB CODE RNAL DATE SENT 8/13/88
 PRESERVATION METHOD HCl-H₂SO₄ - H₂O₂ added by lab Chill to 8°C
 COMMENTS Well installed in 1987 purge info below

FINAL PARAMETER MEASUREMENTS:

					DETECTION LIMIT
POTENTIAL OF HYDROGEN	PH	S.U.	<u>7.26</u>		<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>445</u>		<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>		<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.5</u>		<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>227.6</u>		<u>0.4</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
1153	0	0	7.32	462	9.5	clear, no odor or stain
1156	2	1	7.24	440	7.5	turbid no odor or stain
1200	4	2	7.28	440	7.0	" " "
1207	6	3	7.26	445	7.5	" " "

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 26M 0697 LOG DATE 5 Aug 88 LOG TIME 1510
 LOCATION ID SP 14-C1 (096) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 096-0003 SAMPLE DEPTH (FT.) 32ft

INITIAL GROUNDWATER DEPTH (FT) 31.8 ft (TCC)
 SAMPLING PERIOD: START 8/11/88 1000 COMPLETE 1030
 SAMPLING METHOD B LOGGER CODE SMB
 LAB CODE RWAL DATE SENT 8/12/88
 PRESERVATION METHOD HCl H₂SO₄ or HNO₃ added by lab
 COMMENTS TOTAL Depth = 42.3 ; sticky = 2 ft
well volume = 10.5 ft³ = 1.75 gallons

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.86</u>	DETECTION LIMIT	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>322</u>		<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>		<u>-</u>
TEMPERATURE	TEMP	°C	<u>8.5°C</u>		<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>180</u>		<u>2</u>

BK pump

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
1510	0.0	0.0	-	-	-	START PUMPING
1537	35	20	7.11	310	7.2	Moderately turbid, 5 gpm
1543	52.5	30	7.14	305	6.7	slightly turbid, 5 gpm
1552	70	40	7.16	304	6.5	slightly turbid, 5 gpm
1558	87.5	50	7.19	303	6.5	very slightly turbid, 5 gpm
1604	105	60	7.17	303	6.5	v. sl. turbid to clear, 5 gpm
						adequate development for sampling
						Final water level 31.8 ft.

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID SCM 0687 LOG DATE 6 Aug 88 LOG TIME 0850
 LOCATION ID SP14-02 (097) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 097-0003 SAMPLE DEPTH (FT.) 36 ft

INITIAL GROUNDWATER DEPTH (FT) 36.1 ft (roc)
 SAMPLING PERIOD: START 8/11/88 0850 COMPLETE 0905
 SAMPLING METHOD B LOGGER CODE SVB
 LAB CODE RIVAL DATE SENT 8/12/88
 PRESERVATION METHOD H2SO4 HCL or HNO3 added by lab
 COMMENTS Depth of well 47.0 ft
bore volume below water level 1.8 gallons
2.4 ft sticking

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.79</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>275</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>142</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
0850	0.0	0.0	-	-	-	START PUMPING
0910	36	20	6.46	260	5.9	known v. turbid 4.9 gpm
0918	54	30	6.92	260	5.2	moderately turbid 4.5 gpm
0925	72	40	6.92	260	5.2	slightly turbid 4.5 gpm
0933	90	50	6.93	260	5.3	very slightly turbid 4.5 gpm
0941	108	60	6.93	260	5.3	very slight turbid 4.5 gpm
0947	118	70	6.93	260	5.3	extremely slight turbid, to clear
						adequately developed for sampling

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

6 Aug 88

ARRESTING RECORD

PAGE 1 OF 2

INSTALLATION ID 0687 LOG DATE 8/11/88 LOG TIME 1025
LOCATION ID GW-74 (SP-14) LOT CONTROL NO. _____
SAMPLE TYPE N SAMPLE ID 099-0001 SAMPLE DEPTH (FT.) 31

INITIAL GROUNDWATER DEPTH (FT) 31.53
SAMPLING PERIOD: START 1050 COMPLETE 1100
SAMPLING METHOD B LOGGER CODE DM
LAB CODE RMHL DATE SENT 8/12/88
PRESERVATION METHOD Chill to 4°C; HCl or HNO₃ added by lab
COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

**DETECTION
LIMIT**

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.03</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	<u>345</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	$^{\circ}\text{C}$	<u>9.0</u>	<u>0.1</u>
ALKALINITY (CaCO_3)	ALK	mg/l	<u>156</u>	<u>2</u>

[illegible]

SAMPLES TYPES (WSACODE)

D -	DUPLICATE	FB -	FIELD BLANK
R -	REPLICATE	TB -	TRIP BLANK
S -	SPIKE	LB -	LAB BLANK
K -	KNOWN	N -	NORMAL

SAMPLE METHODS. (WSMCODE)

G - GRAB	SP - SUBMERSIBLE PUMP
B - BAKER	AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP	BP - BLADDER PUMP
SL - SUCTION LIFT PUMP	

GROUND WATER QUALITY SAMPLING RECORD

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INSTALLATION ID 0687 LOG DATE 8/11/88 LOG TIME 1115
 LOCATION ID W-17 SP-14 LOT CONTROL NO.
 SAMPLE TYPE N SAMPLE ID 098-0001 SAMPLE DEPTH (FT.) 30

INITIAL GROUNDWATER DEPTH (FT) 29.75
 SAMPLING PERIOD: START 1205 COMPLETE 1225
 SAMPLING METHOD B LOGGER CODE DM
 LAB CODE RNAL DATE SENT 8/12/88
 PRESERVATION METHOD Chilled to 4°C; HCl or HNO₃ added by lab
 COMMENTS Duplicate sample site; ambient conditions blank collected (6 VOA's)

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.6</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>310</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u> </u>	<u> </u>
TEMPERATURE	TEMP	°C	<u>8.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>158</u>	<u>2</u>
	ALK	dupe	<u>166</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
1155	3.5	1	7.51	309	9.0	slightly cloudy, no odors
1200	7.0	2	7.51	310	8.5	" "
1206	10.5	3	7.6	310	8.5	" "

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM LOG DATE 7/22/88 LOG TIME 0920
 LOCATION ID SP-15-01 (100) LOT CONTROL NO.
 SAMPLE TYPE WATER SAMPLE ID 100-0003 SAMPLE DEPTH (FT.) 28 ft

INITIAL GROUNDWATER DEPTH (FT) 28' 6" (TOL) TD = 38 ft (TOL) 28.27
 SAMPLING PERIOD: START 8/22 1153 COMPLETE 1200 8/22 ft
 SAMPLING METHOD B LOGGER CODE 203
 LAB CODE RIVAL DATE SENT 8/23/88
 PRESERVATION METHOD HCl, Ascorbic Acid added by lab Chill to 4°C
 COMMENTS

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.21</u>	DETECTION LIMIT	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	μmhos/cm	<u>650</u>		<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>		<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.0</u>		<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>244.0</u>		<u>0.2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volumes				
	0.0	0.0	-	-	-	START PUMPING
0925	0.0	0.0	6.91	680	7.0	clear slight odor
0935	1.5	1	7.06	650	6.5	choc. brown odor Hau = 4 ppm
0945	3.0	2	7.06	700	6.3	" " "
0948	6.0	4	7.04	700	6.7	" " " Shown-minor
1015	8.0	5.5	7.03	700	7	" " " "
1040	20.0	9.5	7.09	690	7	clearing slightly - odor
1100	30.0	15.0	7.00	700	7	turbid sheer & odor
1452	30.00	15.0	7.19	610	8	slightly turbid, sheer & odor
1500	35	17.5	7.07	690	7 1/2	turbid, but clearing
1530	45	22.0	7.15	670	8	clearing, slight sheer & odor
1535	50	24.5	7.12	670	7	" " " "
1545	55	27.0	7.15	670	7 1/2	"

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

PAGE 2 OF 2

[illegible]

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID SLM 0282 LOG DATE 8/8/88 LOG TIME 0904
 LOCATION ID SP15-02 (100) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID (100)-0003 SAMPLE DEPTH (FT.) 26 ft

INITIAL GROUNDWATER DEPTH (FT) 27.0 ft (TWC) 8/22 - 26.78 ft
 SAMPLING PERIOD: START 8/22 1230 COMPLETE 1250
 SAMPLING METHOD B LOGGER CODE SNB
 LAB CODE RNAL DATE SENT 8/23/88
 PRESERVATION METHOD HCl, H₂SO₄ & HNO₃ added chill to 4°C
 COMMENTS Depth of well = 39.5 ft (TWC)
TWC is 0.5 ft below ground surface
barrel volume is 2.1 gallons

FINAL PARAMETER MEASUREMENTS: developed with B-H pump DETECTION LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.02</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>800</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>220</u> <u>168.0</u>	<u>0.0</u>

ALL DUP 220.0

TIME	TOTAL VOLUME WITHDRAWN		pH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
0904	0.0	0.0	-	-	-	START PUMPING
0915	21	10	6.89	620	6.5	brown, very turbid 3 gpm
0925	21/42	20	7.22	600	5.8	brown, moderately turbid 4 gpm
0935	21/63	30	7.35	610	6.3	brownish clear, slightly turbid
0945	11/84	35	7.52	610	6.0	clear, very slightly turbid
1005	85	40	7.54	600	5.8	clear 4 gpm
1013	96	45	7.35	600	5.8	clear 4 gpm
1020	107	50	7.31	600	5.7	clear 4 gpm
						Developed - adequately for sampling
1030						Final water level 26.9 ft

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 8CM 0687 LOG DATE 2 Aug 88 LOG TIME 1550
 LOCATION ID NSA-01 (106) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 106-0003 SAMPLE DEPTH (FT.) 38 ft

INITIAL GROUNDWATER DEPTH (FT) 38.8 TOC
 SAMPLING PERIOD: START 8/8/88 1320 COMPLETE 1330
 SAMPLING METHOD B LOGGER CODE SWB
 LAB CODE RWAL DATE SENT 8/9/88
 PRESERVATION METHOD Chill to 4°C Add HCl H₂SO₄ OR HNO₃
 COMMENTS Bottom of hole 53.2 (TOC) sketch 2.5 ft

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.72</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>210</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>7.0</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>120</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
1550	0.0	0.0	-	-	-	START PUMPING
1608	25	10	6.29	200	8.3	very turbid, purge rate = 3 gal/min
1625	50	20	6.82	205	8.0	turbid; purge rate 3 gpm
1637	75	30	6.86	205	7.2	slightly turbid 3 gpm
1652	100	40	6.81	204	7.0	slightly turbid 3 gpm
1700	112	45	6.85	204	6.8	very slightly turbid 3 gpm
1709	125	50	6.87	203	6.6	" " "
1716	133	54	6.87	202	6.3	" " "
1722	141	58	6.85	203	6.3	clear
						developed for sampling

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 N - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

~ 2.5 gal / bore volume

GROUND WATER QUALITY SAMPLING RECORD

PAGE 2 OF 2

INSTALLATION ID ELM (0687) LOG DATE 16 July 88 LOG TIME _____
 LOCATION ID NS2-02 (107) LOT CONTROL NO. _____
 SAMPLE TYPE _____ SAMPLE ID _____ SAMPLE DEPTH (FT.) _____

INITIAL GROUNDWATER DEPTH (FT) 40.2 TOC
 SAMPLING PERIOD: START 11:30 COMPLETE 12:15
 SAMPLING METHOD bailing LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

DETECTION
LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	_____	_____
SPECIFIC CONDUCTANCE	SC	µmhos/cm	_____	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	°C	_____	_____
ALKALINITY (CaCO ₃)	ALK	mg/l	_____	_____

Bore volume = 2.3 gallons

B-K Pump

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
	0.0	0.0	-	-	-	START PUMPING
15 July 88 17:05	8 gal	3.5				water brown - heavy sediment
16 July 88 11:30	11 gal	4.8	6.27	185	9°	water lightening up - lighter sediment load
11:35	17 gal	7.4	6.58	180	9°	water brown turbid
11:40	18 gal	7.8	6.68	178	8°	clearing slightly colored
11:55	21 gal	9.1	6.75	180	8°	still turbid
12:15	23 gal	10	6.75	180	8°	clear
						Developed for Sampling
		11.3				bailed additional 3 gal
						in drilling pipe
						water level at 40.2 after
						bailing

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

STABLE

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID ELM LOG DATE 7/15/88 LOG TIME 1713
 LOCATION ID NS-2-2 (104) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 167-0003 SAMPLE DEPTH (FT.) 40ft TOC

INITIAL GROUNDWATER DEPTH (FT) 40ft 2" (TOC)
 8/8/88 SAMPLING PERIOD: START 1445 COMPLETE 1455
 SAMPLING METHOD B LOGGER CODE 2113
 LAB CODE RNAL DATE SENT 8/9/88
 PRESERVATION METHOD Chill to 4°C - Acids added to certain tests
 COMMENTS No floating contaminants

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.76</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>227</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>6.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>110</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volumes				
	0.0	0.0	-	-	-	START PUMPING
1713	0	0	6.35	195	10.8	Slightly turbid HNO=0.0
1720	2		6.51	195	7	turbid - chol. brown
1730	4		6.67	200	7.50	" HNO=0.00
1734	6		6.58	195	7.0	"
1745	8		6.60	195	7.0	"
1750	10		6.55	200	7.0	"

SAMPLES TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

CONTAMINATION ID Elm 0687 LOG DATE 8/11/83 LOG TIME 1040
 LOCATION ID 153-02 W (III) LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 111-0003 SAMPLE DEPTH (FT.) 464

1. GROUNDWATER DEPTH (FT) ~~10.5~~ ^{4.8'} 8/23/88 - 3.91 ft (TCC)
2. PUMPING PERIOD: START ~~1050~~ 8/23/88 0854 COMPLETE ~~08~~ 0904
3. PUMPING METHOD ~~station lift pump~~ (5) LOGGER CODE ~~SM3~~
4. CODE ~~RURAL~~ 2B DATE SENT 8/23/88
5. OBSERVATION METHOD HCl or H₂SO₄ added by lab - Drill to 400
6. COMMENTS 27.0' = TD. 220' of water in pipe, which =
3.2 gal of H₂O in pipe (Bore Volume)
DETECTION

PHYSICAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.44</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	<u>249</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	$^{\circ}\text{C}$	<u>9.0</u>	<u>-</u>
ALKALINITY (CaCO_3)	ALK	mg/l	<u>158.3</u>	<u>0.2</u>

[illegible]

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
R - REPLICATE TB - TRIP BLANK
S - SPIKE LB - LAB BLANK
K - KNOWN N - NORMAL

SAMPLE METHODS. (WSMCODE)

G - GRAB	SP - SUBMERSIBLE PUMP
B - BAILER	AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP	BP - BLADDER PUMP
SL - SUCTION LIFT PUMP	

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID Elm 269 LOG DATE 8/12/99 LOG TIME 1245
 LOCATION ID NS-3/03 LOT CONTROL NO. _____
 SAMPLE TYPE _____ SAMPLE ID _____ SAMPLE DEPTH (FT.) _____

INITIAL GROUNDWATER DEPTH (FT) 3.6'
 SAMPLING PERIOD: START 1248 COMPLETE 1330
 SAMPLING METHOD _____ LOGGER CODE _____
 LAB CODE _____ DATE SENT _____

PRESERVATION METHOD _____
 COMMENTS 17.2 = TD, Pore Volume = 12.6" which = 2.3 gal

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	PH	S.U.	<u>7.14</u>	DETECTION LIMIT
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>398</u>	
REDOX POTENTIAL	Eh	mvolts	<u>-0.14</u>	
TEMPERATURE	TEMP	°C	<u>10.5</u>	
ALKALINITY (CaCO ₃)	ALK	mg/l		

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume				
1250	0.0	0.0	-	-	-	START PUMPING
1305	60	26.1	7.18	400	11	TURBID
1312	80	34.8	7.12	395	10	moderately turbid
1316	100	43.5	7.14	395	11	"
1322	120	52.2	7.14	398	10.5	Very slightly TURBID
						Post Development Depth to
						WATER = 3.58 ft. (at) 1330 HRS
						ADEQUATELY DEVELOPED FOR SAMPLING

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID Elm 069 LOG DATE 8/12/88 LOG TIME 1245
 LOCATION ID NS-3/03 (110) LOT CONTROL NO.
 SAMPLE TYPE N SAMPLE ID 110-0003 SAMPLE DEPTH (FT.) 4ft

INITIAL GROUNDWATER DEPTH (FT) 3.6' 8/23/88 - 3.60ft (10x)
 SAMPLING PERIOD: START 1245 8/23/88 1030 COMPLETE 1330 1055
 SAMPLING METHOD B LOGGER CODE SM3
 LAB CODE RMTL DATE SENT 8/24/88
 PRESERVATION METHOD HCl H₂SO₄ added by lab Chill to 4°C
 COMMENTS 17.2 = TD, Bore Volume = 12.6" which = 2.3 gal

FINAL PARAMETER MEASUREMENTS:

DETECTION

LIMIT

POTENTIAL OF HYDROGEN

pH

S.U.

7.18 4.880.01

SPECIFIC CONDUCTANCE

SC

 $\mu\text{mhos/cm}$ 398 4221

REDOX POTENTIAL

Eh

mvolts

-0.04 --

TEMPERATURE

TEMP

°C

10.5 11°0.1ALKALINITY (CaCO₃)

ALK

mg/l

263.80.2

TIME	TOTAL VOLUME WITHDRAWN		pH	SC ($\mu\text{mhos/cm}$)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
1250	0.0	0.0	-	-	-	START PUMPING
1305	60	26.1	7.18	400	11	TURBID
1313	80	34.8	7.12	395	10	moderately turbid,
1316	100	43.5	7.14	395	11	"
1322	120	52.2	7.14	398	10.5	Very slightly TURBID
						Post Development Depth to
						WATER = 3.58 ft. (10) 1330 HRS
						ADEQUATELY DEVELOPED FOR SAMPLING

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID Elm 0687 LOG DATE 8/12/88 LOG TIME 0815
 LOCATION ID NIS-3 / 04 (113) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 113-0003 SAMPLE DEPTH (FT.) 28 ft

INITIAL GROUNDWATER DEPTH (FT) 28.0' 8/23 - 27.93 ft (TOC)
 SAMPLING PERIOD: START 8/23 - 1236 COMPLETE 8/25 1244
 SAMPLING METHOD PP (SE) LOGGER CODE SM3
 LAB CODE RM31 DATE SENT 8/24/88
 PRESERVATION METHOD HCl H₂SO₄ & HNO₃ added
 COMMENTS TD = 48.5' , Water in pipe = 20.5' which =
3.4 gal in pipe.

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.11</u>	DETECTION LIMIT	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	μmhos/cm	<u>350</u>		<u>1</u>
REDOX POTENTIAL	Eh	mvols	<u>-</u>		
TEMPERATURE	TEMP	°C	<u>9.0</u>		<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>163.2</u>		<u>0.2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
0900	0.0	0.0	-	-	-	START PUMPING
0915	60	7.6	6.23	335	8.5	very turbid, 5 gpm, 6' below.
0930	80	23.4	7.38	340	8.5	turbid.
0940	100	28.2	7.38	349	8.9	TURBID, grey. 5 gpm
0946	120	34.5	7.35	345	8.5	slightly turbid
0956	140	40.9	7.39	345	8.5	clear to slightly turbid
						Adequately developed for sampling.
						Final water depth = 28.0'

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

11/2

INSTALLATION ID ELM-0687 LOG DATE 8/12/88 LOG TIME 1600 HRS
 LOCATION ID BH-1 (119) LOT CONTROL NO.
 SAMPLE TYPE N+D SAMPLE ID 119-0003+0003D SAMPLE DEPTH (FT.)

INITIAL GROUNDWATER DEPTH (FT) 57.1 FT
 SAMPLING PERIOD: START 1600 ^{8/30} HRS COMPLETE 1115 ^{8/30} HRS
 SAMPLING METHOD B LOGGER CODE 573
 LAB CODE DMAL DATE SENT 8/30 31/88
 PRESERVATION METHOD HCl H₂SO₄ & H₂O₂ added by lab
 COMMENTS TD = 68.6 FT STANDING H₂O = 9.5 FT
9.5 - 6 = 1.58 ≈ 1.6 GAL

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.00</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	μmhos/cm	<u>103 095</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	
TEMPERATURE	TEMP	°C	<u>5.2</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>45</u>	<u>2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (μmhos/cm)	TEMP (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
1600	0.0	0.0	-	-	-	START PUMPING
1625	90	56	*	110	11	VERY TURBID
1630	100	62.2		105	6	
1635	110	68.4		105	5	
1643	120	74.6		100	6	
1647	130	80.8		100	5.5	
1652	140	86.0		100	6	
1656	150	93.3		103	6	TURBID

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

DH meter inoperable

$\frac{z}{z}$

SAMPLE TYPE _____ SAMPLE ID _____ SAMPLE DEPTH (FT.) _____

COMMENTS _____

ALKALINITY (CaCO₃) ALK mg/l _____

SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID 84-03 LOG DATE 8-23-89 LOG TIME 1500
LOCATION ID B14-3 LOT CONTROL NO. _____
SAMPLE TYPE N SAMPLE ID 121-0002 SAMPLE DEPTH (FT.) 17 ft - 4000

INITIAL GROUNDWATER DEPTH (FT) 9'-2" 8/30/88 17.16 ft (TDC)
SAMPLING PERIOD: START 8/30/88 1000 COMPLETE 8/31/88 - 0830
SAMPLING METHOD B LOGGER CODE Emc
LAB CODE RMA DATE SENT 8/31/88
PRESERVATION METHOD add H₂SO₄ or HNO₃ added by lab
COMMENTS _____

Very slow recharge - returned numerous
times to complete sample

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.49</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	μmhos/cm	<u>205</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>6.5</u>	<u>0.6</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>105</u>	<u>5</u>

[illegible]

SAMPLES TYPES (MSACODE)

D - DUPLICATE FB - FIELD BLANK
R - REPLICATE TB - TRIP BLANK
S - SPIKE LB - LAB BLANK
K - KNOWN N - NORMAL

SAMPLE METHODS. (WSMCODE)

G - GRAB	SP - SUBMERSIBLE PUMP
B - BAILER	AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP	BP - BLADDER PUMP
SL - SUCTION LIFT PUMP	

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

ELM

INSTALLATION ID BH-04 LOG DATE 8-24-88 LOG TIME 1020
 LOCATION ID BH-04 LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 122-0003 SAMPLE DEPTH (FT.) 5.5 ft (TOC)
 INITIAL GROUNDWATER DEPTH (FT) 7'-4" 8/30 - 5.57 ft (TOC)
 SAMPLING PERIOD: START 8/30 - 1100 0920 COMPLETE 8/30 0935
 SAMPLING METHOD B LOGGER CODE SWB
 LAB CODE RMA1 DATE SENT 8/31/88
 PRESERVATION METHOD HCl, H2SO4 or HNO3 added by lab
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.32</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>635 98</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>6.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>45</u>	<u>5</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
1025	0.0	0.0	-	-	-	START PUMPING
1030	5.0		6.98	12	8	Question Instrument reliability
1041	20.0		7.17	12	8	
1051	40.0		7.42	11	8	
1057	50.0		7.43	12	8	
1103	60.0		7.43	12	8	

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

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INSTALLATION ID BH-05 ^{ELM} LOG DATE 8-24-81 LOG TIME 1225
 LOCATION ID BH-05 LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 123-0003 SAMPLE DEPTH (FT.) 6 ft CROC
 INITIAL GROUNDWATER DEPTH (FT) 4'-4" 8/30 - 6.38 ft (CROC)
 SAMPLING PERIOD: START 8/30 - 1343 COMPLETE 1356
 SAMPLING METHOD B LOGGER CODE SUB
 LAB CODE DMR DATE SENT 8/31/81
 PRESERVATION METHOD HCl H₂SO₄ or HNO₃ added by lab
 COMMENTS _____

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.42</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	<u>338</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	$^{\circ}\text{C}$	<u>7.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>170</u>	<u>5</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC ($\mu\text{mhos/cm}$)	TEMP. ($^{\circ}\text{C}$)	COMMENTS
	(GALS)	Bore Volume				
1225	0.0	0.0	-	-	-	START PUMPING
1229	10.0		8.86	6	9	Question Instruments reliability
1242	25.0		8.39	6	8	
1259	40.0		8.03	6	8	
1310	50.0		8.13	6	8	
1321	60.0		8.07	6	8	

SAMPLE TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

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INSTALLATION ID 0687 LOG DATE 8/8/88 LOG TIME 1115
 LOCATION ID BH-6 LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 124-0003 SAMPLE DEPTH (FT.) 11.4 ft (100)

INITIAL GROUNDWATER DEPTH (FT) 10.7 ft 8/30 11.05 ft (100)

SAMPLING PERIOD: START 8/30 1220 COMPLETE 1235

SAMPLING METHOD B LOGGER CODE SNB

LAB CODE Rmer DATE SENT 8/31/88

PRESERVATION METHOD Acid H₂SO₄ or HNO₃ added

COMMENTS Cooring stretching = 2 ft

Depth of well = 12.3 ft

borehole volume

Developed using

Taylor probe

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN

pH

S.U.

6.39

LIMIT

0.01

SPECIFIC CONDUCTANCE

SC

 $\mu\text{mhos/cm}$ 3551

REDOX POTENTIAL

Eh

mvolts

--

TEMPERATURE

TEMP

°C

11.50.1ALKALINITY (CaCO₃)

ALK

mg/l

1705

TIME	TOTAL VOLUME WITHDRAWN		PH	SC ($\mu\text{mhos/cm}$)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume				
1115	0.0	0.0	-	-	-	START PUMPING
1130	7	38	7.12	374	11.0	Brown, very turbid
1200	11	44	7.08	375	11.0	brown, turbid 0.3 gpm
1220	16	64	7.08	375	11.0	brown, slightly turbid 0.3 gpm
1240	21	84	7.07	370	11.0	v. slightly turbid to clear 0.3 gpm
1250	23.5	94	7.06	372	11.0	v. sl. turbid to clear 0.3 gpm
						Developed adequately for sampling
1251						Final water level = 11.0 ft

SAMPLE TYPES (WSACODE)

D - DUPLICATE

FB - FIELD BLANK

R - REPLICATE

TB - TRIP BLANK

S - SPIKE

LB - LAB BLANK

K - KNOWN

N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB

SP - SUBMERSIBLE PUMP

B - BAIER

AL - AIR-LIFT SAMPLER

PP - PERISTALTIC PUMP

BP - BLADDER PUMP

SL - SUCTION LIFT PUMP

GROUND WATER QUALITY SAMPLING RECORD

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INSTALLATION ID ELM LOG DATE 8/23/82 LOG TIME 1425
LOCATION ID BW-1 LOT CONTROL NO. -
SAMPLE TYPE N SAMPLE ID 117-0001 SAMPLE DEPTH (FT.) unknown 16ft

INITIAL GROUNDWATER DEPTH (FT) about 16 ft
SAMPLING PERIOD: START 8/23 - 1420 COMPLETE 1430
SAMPLING METHOD SL (?) LOGGER CODE SM3
LAB CODE RMAH DATE SENT 8/24/88
PRESERVATION METHOD HCl H₂SO₄ or HNO₃ added
COMMENTS Rise drinking water well - in use for several weeks - not purged by US

FINAL PARAMETER MEASUREMENTS:

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.02</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>140</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>—</u>	<u>—</u>
TEMPERATURE	TEMP	°C	<u>0.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>67.3</u>	<u>0.2</u>

[illegible]

SAMPLES TYPES (WSACODE)

D -	DUPLICATE	FB -	FIELD BLANK
R -	REPLICATE	TB -	TRIP BLANK
S -	SPIKE	LB -	LAB BLANK
K -	KNOWN	N -	NORMAL

SAMPLE METHODS. (WSMCODE)

G - GRAB
B - BAILER
PP - PERISTALTIC PUMP
SL - SUCTION LIFT PUMP
SP - SUBMERSIBLE PUMP
AL - AIR-LIFT SAMPLER
BP - BLADDER PUMP

PAGE 1 OF 2

G - GRAB	SP - SUBMERSIBLE PUMP
B - BAILER	AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP	BP - BLADDER PUMP
SL - SUCTION LIFT PUMP	

GROUND WATER QUALITY SAMPLING RECORD

PAGE 1 OF 2

INSTALLATION ID Elm LOG DATE 8/23/88 LOG TIME 1400
 LOCATION ID BW-52 LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID # 125-000 SAMPLE DEPTH (FT.) ?

INITIAL GROUNDWATER DEPTH (FT) unknown
 SAMPLING PERIOD: START 1400 COMPLETE 1410
 SAMPLING METHOD From TAP LOGGER CODE SMR
 LAB CODE RMAL DATE SENT 8/24/88
 PRESERVATION METHOD HCl to SO₄ & HNO₃ added by lab chill to 4°C
 COMMENTS Base drinking water well sampled after prior to chlorination

FINAL PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>8.69</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>170</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>9.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>107.6</u>	<u>0.2</u>

TIME	TOTAL VOLUME WITHDRAWN		PH	SC (µmhos/cm)	TEMP. (°C)	COMMENTS
	(GALS)	Bore Volume(s)				
	0.0	0.0	-	-	-	START PUMPING

SAMPLES TYPES (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 C - SILEP AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

Field Record Sheets

Elmendorf AFB, AK QAPP
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FIELD RECORD SHEET

Site Name: D3-1 Site Number: 001

Exact location of well or source of sample or well number: _____

S of Hospital Across oil well road
well # D-3-1

Date: 2/9/88 Time: 0930 Weather: Sunny 60°

Sample Number: 001-0003 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ HNO₃ added by lab

Point and Method of Collection: Teflon bailer at water level

Water Level: 25.92 ft Rate of Discharge: —

Duration of Pumping Prior to Sampling: 16.5 gal

Depth of Well: 59.97 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 5.5° C pH: 7.91

Conductivity: 140 μ mhos/cm

Appearance and any Other Relevant Data: NO Sheen or odor

Samplers Initials: SNB

FIELD RECORD SHEET

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Site Name: D-3-2 Site Number: 002

Exact location of well or source of sample or well number: South of hospital - Across oil well road

Date: 8/19/88 Time: 0830 Weather: mostly sunny 60°

Sample Number: 002-0003 Type of Sample: Grab

Preservative Type and Amount: HCl, HNO₃ or H₂SO₄ added by lab

Point and Method of Collection: Teflon bucket at water level

Water Level: 20.08 ft (Toc) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 5 gal purged (to dry)

Depth of Well: 32.07 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 5.0°C pH: 7.51

Conductivity: 162 umhos/cm

Appearance and any Other Relevant Data: No odor no sludge

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: D-3-3 Site Number: 003

Exact location of well or source of sample or well number: S of Hospital Across oil well road
well # D3-3

Date: 8/9/88 Time: 0900 Weather: Sunny calm 60°
Sample Number: 003-0003 Type of Sample: Grab
Preservative Type and Amount: HCl H₂SO₄ + ~~HNO₃~~ HNO₃ added
Point and Method of Collection: Teflon bailer at water level

Water Level: 10.33 ft (TOD) Rate of Discharge: -
Duration of Pumping Prior to Sampling: 6 gal pumped
Depth of Well: 22.70 ft Diameter of Well: 2 in ID
Screened, Slotted, Perforated, or Louvered Intervals: See well completion form
Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 3.5°C pH: 7.54
Conductivity: 339 μ mhos/cm

Appearance and any Other Relevant Data: No odors No Sheen

Samplers Initials: SNB

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FIELD RECORD SHEET

Site Name: ~~640-1~~ W-7 (0-5) Site Number: 005

Exact location of well or source of sample or well number: _____

well no: W-1

Installed in 1986

Date: 8/9/88 Time: 0930 Weather: Sunny calm 65°

Sample Number: ~~005~~ 005-0001 Type of Sample: Water

Preservative Type and Amount: HCL, H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: under surface with teflon bailer

Water Level: 38.5 ft (TAC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: ~~10.5~~ 10.5 hr (3 well vol)

Depth of Well: 59.32 Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see unknown

Types of Screens, Slots, Perforations, or Louvers: unknown

Water Bearing Formation(s): see log of boring

Water Temperature: 5.8°C pH: 6.85

Conductivity: 190 umho

Appearance and any Other Relevant Data: No visible contaminants

or color

Some orange colored sediment

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: D-5 GW-1A

Site Number: 007

Exact location of well or source of sample or well number: _____

Dames & Moore Well GW-1A

Date: 8/29/88 Time: 1105 Weather: HEAVY RAIN

Sample Number: 007-000 Type of Sample: Water

Preservative Type and Amount: H₂SO₄, HNO₃, HCl added by lab

Point and Method of Collection: Water surface with teflon bailer.

Water Level: 41.75' Rate of Discharge: —

Duration of Pumping Prior to Sampling: 6 gals (3 well volumes)

Depth of Well: 52.39' Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): Unknown

Water Temperature: 5.0°C pH: 4.65

Conductivity: 88

Appearance and any Other Relevant Data: turbid water, no odor or
sheen

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: GW-1C (D-5)

Site Number: 055008

Exact location of well or source of sample or well number: _____

well no. GW-1C installed 1987

Date: 8/9/88 Time: 1400 Weather: Sunny, calm 70° F

Sample Number: 008-0001 Type of Sample: Grab

Preservative Type and Amount: HCl, H₂SO₄, or HNO₃ added by lab.

Point and Method of Collection: Mattson-Totton Bailor - at
water surface

Water Level: 40.96 ft (TOL) Rate of Discharge: -

Duration of Pumping Prior to Sampling: Purged 6 gal

Depth of Well: 52.05 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion diagram

Types of Screens, Slots, Perforations, or Louvers: ~~area~~ unknown

Water Bearing Formation(s): see log of boring

Water Temperature: 6.5°C pH: 6.82

Conductivity: 129 umhos

Appearance and any Other Relevant Data: No obvious contamination
No odor or stain

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: D5 GW-2A Site Number: 009

Exact location of well or source of sample or well number: Dames & Moore Well GW-2A

Date: 8/29/88 Time: 1140 Weather: Heavy Rain
Sample Number: 009 Type of Sample: Water
Preservative Type and Amount: HCl, H₂SO₄, HNO₃ added by lab
Point and Method of Collection: Water surface with teflon bailer

Water Level: 42.16' Rate of Discharge: —
Duration of Pumping Prior to Sampling: 6 gals (3 well volumes)
Depth of Well: 52.12' Diameter of Well: 2 in I.D.
Screened, Slotted, Perforated, or Louvered Intervals: Unknown
Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): Unknown

Water Temperature: 5.0°C pH: 4.22
Conductivity: 70

Appearance and any Other Relevant Data: turbid; no odors or sheen

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: W-5 D-7 Site Number: 010

Exact location of well or source of sample or well number: W-5 010

Date: 8/10/88 Time: 1014 Weather: Rain
Sample Number: 010-0001 Type of Sample: Water
Preservative Type and Amount: HCl, H₂SO₄, HNO₃ added by lab
Point and Method of Collection: Water surface with teflon bailer

Water Level: 32.47 Rate of Discharge: -
Duration of Pumping Prior to Sampling: 12 gals (3 well volumes)
Depth of Well: 55.74 Diameter of Well: 2 in. ID
Screened, Slotted, Perforated, or Louvered Intervals: Unknown
Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): Unknown

Water Temperature: 6.4°C pH: 6.83
Conductivity: 128 umhos/cm

Appearance and any Other Relevant Data: clear to turbid water; no
oil, odor or sheen. Duplicate sample

Samplers Initials: APL

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FIELD RECORD SHEET

Site Name: D-7 W-6 Site Number: 011

Exact location of well or source of sample or well number: _____

D-7 # GW-6 011-0001

Date: 8/10/88 Time: 0940 Weather: Rain

Sample Number: 011-0001 Type of Sample: Water

Preservative Type and Amount: H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Water surface with teflon bottles

Water Level: 33.24 (TOC) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 7.5 gal (3 well vols.)

Depth of Well: 57.06' Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): ~~See Well Completion Log~~ See boring log

Water Temperature: 5.5°C pH: 6.87

Conductivity: 100 umhos/cm

Appearance and any Other Relevant Data: turbid w/ particulates

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: GW 1B (D-7) Site Number: 012
(012)

Exact location of well or source of sample or well number: _____

well no. GW-1B installed 1987

Date: 8/9/88 Time: 1120 Weather: Sunny calm 70-65°

Sample Number: 012-0001 Type of Sample: Grab

Preservative Type and Amount: 100% HNO₃ or HCl added by lab

Point and Method of Collection: at water level with teflon bailer

Water Level: 35.63 ft (TWC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: Purge 5 gal.

Depth of Well: 46.12 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion form

Types of Screens, Slots, Perforations, or Louvers: and unknown

Water Bearing Formation(s): see log of boring

Water Temperature: 5.6° F pH: 6.8

Conductivity: 345 umho

Appearance and any Other Relevant Data: No visible contamination
or odor

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: GW-2B (013)
D-7 Site Number: 013

Exact location of well or source of sample or well number: _____

well no GW-2B installed 1987

Date: 8/9/88 Time: 1000 Weather: Sunny calm 60°F
Sample Number: 013-0001 Type of Sample: Grab
Preservative Type and Amount: HCl H₂SO₄ H₂O₂ added by lab
Point and Method of Collection: Point: water level
Method: Teflon bailer

Water Level: 33.00ft Rate of Discharge: -
Duration of Pumping Prior to Sampling: Required to get.
Depth of Well: 44.73 ft Diameter of Well: 2 in ID
Screened, Slotted, Perforated, or Louvered Intervals: see well completion form
Types of Screens, Slots, Perforations, or Louvers: unknown

Water Bearing Formation(s): see log of boring

Water Temperature: 6.0°C pH: 6.89
Conductivity: 273

Appearance and any Other Relevant Data: No obvious contamination
or color

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: D-7 GW-2C Site Number: 014

Exact location of well or source of sample or well number: _____

Well # GW-2C

Date: 8/10/88 Time: 0815 Weather: RAIN

Sample Number: 014-0001 Type of Sample: Water

Preservative Type and Amount: HCl, H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Water surface with teflon bailer

Water Level: 31.92 (TOC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 5 gal (3 well vol)

Depth of Well: 39.61 Diameter of Well: 2 in. ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): See Well Completion Log

Water Temperature: 5.8°C pH: 6.27

Conductivity: 208 umhos/cm

Appearance and any Other Relevant Data: No detectable odors

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: D-13-01

Site Number: 015

Exact location of well or source of sample or well number: _____

well # D-13-01

Date: 8/9/88 Time: 1220 Weather: Partly sunny 60° calm
Sample Number: 015-0003 Type of Sample: Water Grab
Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab
Point and Method of Collection: at water table with Teflon Bailer

Water Level: 41.32 ft (TDC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 9 gal purged (3 well vol)

Depth of Well: 57.93 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion log

Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 6.0 °C pH: 6.37

Conductivity: 197 μ mhos/cm

Appearance and any Other Relevant Data: No sheen or odor

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: D-13-02 (016) Site Number: 016

Exact location of well or source of sample or well number: _____

located W of sanitary landfill E of EAFB

Date: 8/8/88 Time: 1355 Weather: partly sunny, calm 70°F

Sample Number: 016-0003 Type of Sample: Grab

Preservative Type and Amount: Hel H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Teflon balls at water level

Water Level: 46.32 ft (TWC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 4.5 gal purged (3 well vol)

Depth of Well: 49.00 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See completion form

Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 6.0°C pH: 6.61

Conductivity: 178 μ mhos/cm

Appearance and any Other Relevant Data: no odor or shear

Samplers Initials: GMB

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FIELD RECORD SHEET

Site Name: SP D-13-03

Site Number: 017

Exact location of well or source of sample or well number: _____

located N of sanitary landfill E of EAFB

Date: 8/8/88 Time: 1420 Weather: Sunny calm 70°

Sample Number: 017-0003 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Teflon bailer at water level

Water Level: 37.92 ft (TOD) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 9 gal purged (3 well vol)

Depth of Well: 55.71 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion log

Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 6.0°C pH: 6.92

Conductivity: 132 μ mhos/cm

Appearance and any Other Relevant Data: No odor or Sheen

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: ~~SATIS~~ - W-11 (D-17) Site Number: 031

Exact location of well or source of sample or well number: _____

Dem well # W-11

Installed 1986

Date: 8/22/88 Time: 1000 Weather: RAIN 55°

Sample Number: 031-0003 Type of Sample: Grav

Preservative Type and Amount: HCl H₂SO₄ & HNO₃ added

Point and Method of Collection: Teflon bailer at water level

Water Level: 7.67 (Toc) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 19.5 min

Depth of Well: 30.48 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: unknown

Types of Screens, Slots, Perforations, or Louvers: unknown

Water Bearing Formation(s): unknown

Water Temperature: 6.2°C pH: 7.35

Conductivity: 795

Appearance and any Other Relevant Data: Has organic odor

NO Sheen

well is situated in area of dead vegetation

Samplers Initials: gmb

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FIELD RECORD SHEET

Site Name: W-13 (D-17) Site Number: 032

Exact location of well or source of sample or well number: _____

Drum well installed 1986

Date: 8/22/88 Time: 1100 Weather: Rain 50°
Sample Number: 032-0001 + 0001D Type of Sample: Grab
Preservative Type and Amount: HCl to SO₄ or HNO₃ added
Point and Method of Collection: Teflon bucket at water level

Water Level: 15.00 ft (100) Rate of Discharge: -
Duration of Pumping Prior to Sampling: 40x1 - (bailer dry)
Depth of Well: 32.61 ft Diameter of Well: 21.25 ID
Screened, Slotted, Perforated, or Louvered Intervals: Unknown
Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): Unknown

Water Temperature: 8.0°C pH: 7.39
Conductivity: 510 μ hos/cm

Appearance and any Other Relevant Data: NO sheen or odor detected
Well bailed dry during purge - return after 2 hrs
Also bailed dry during sampling - return in 2 hrs to
fill remaining 6, 1-L bottles.

Samplers Initials: SNB

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FIELD RECORD SHEET

Site Name: IS-1

Site Number: 033

Exact location of well or source of sample or well number: _____

Behind hangar 14

Date: 8/18/88 Time: 0850 Weather: partly cloudy atm 60°
Sample Number: 033-0003 Type of Sample: Grab
Preservative Type and Amount: HEI H₂SO₄ HNO₃ or NaOH added by lab
Point and Method of Collection: Teflon Bailer at water level

Water Level: 28.28 ft (TAC) Rate of Discharge: _____
Duration of Pumping Prior to Sampling: 2 gal purged (3 well vol)
Depth of Well: 35.20 ft Diameter of Well: 2 in ID
Screened, Slotted, Perforated, or Louvered Intervals: see well completion log
Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 7.0 °C pH: 7.08
Conductivity: 620 μ hos/cm

Appearance and any Other Relevant Data: NO odor or Sheen

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: W-18 (FS-1) Site Number: 041

Exact location of well or source of sample or well number: _____

Near hangar 14

D+M well installed in 1986 # W-18

Date: 8/18/88 Time: 1100 Weather: mostly cloudy 60°

Sample Number: 041-0001 Type of Sample: Grab

Preservative Type and Amount: HCL H₂SO₄ HNO₃ & NaOH added

Point and Method of Collection: Teflon bailer at water level

Water Level: 29.20 ft (TOL) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 9 min

Depth of Well: 47.97 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 8.5°C pH: 7.22

Conductivity: 590 μ mhos/cm

Appearance and any Other Relevant Data: pure product dark

Brown oily, black stringy
particles

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: W-19 (IS-1) Site Number: 042

Exact location of well or source of sample or well number: _____

Dames & Moore well # W-19

Date: 8/18/88 Time: 0940 Weather: Mostly cloudy 60°

Sample Number: 042-0001 (MS+MSD) Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ HNO₃ or NaOH added by lab

Point and Method of Collection: Teflon bucket at water level

Water Level: 29.31 ft (TWC) Rate of Discharge: _____

Duration of Pumping Prior to Sampling: 7.5 gal purged

Depth of Well: 44.48 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 20.0°C pH: 7.26

Conductivity: 450 umhos/cm

Appearance and any Other Relevant Data: NO odor NO Sheen

Samplers Initials: SNB

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FIELD RECORD SHEET

Site Name: IS-2 (034) Site Number: 034

Exact location of well or source of sample or well number: _____

behind hangar 11

well # IS-2

Date: 8/17 Time: 1500 Weather: mostly cloudy calm 60°

Sample Number: ~~30~~ 034-0003 Type of Sample: Grab

Preservative Type and Amount: HCl HNO₃ H₂SO₄, ~~H₂O₂~~ NaOH

Point and Method of Collection: at water level with Teflon bailer

Water Level: 29.21 ft GCR Rate of Discharge: —

Duration of Pumping Prior to Sampling: 6 gal purged

Depth of Well: 40.03 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See boring log

Water Temperature: 6.8°C pH: 7.41

Conductivity: 330 μ mhos/cm

Appearance and any Other Relevant Data: no odor or sheer

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: IS-3 Site Number: 035

Exact location of well or source of sample or well number: _____

Behind ~~Access~~ Hangar 10

Date: 8/18/88 Time: 1320 Weather: mostly cloudy 60°

Sample Number: 035-0003 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ HNO₃ NaOH added by lab

Point and Method of Collection: Teflon bailer at water surface

Water Level: ~~49.80 ft~~ 41.19 ft Rate of Discharge: -

Duration of Pumping Prior to Sampling: 4.5 gals purged

Depth of Well: 49.80 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 5.9°C pH: 7.05

Conductivity: 515 μ mhos/cm

Appearance and any Other Relevant Data: no odor

no sheen

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: IS-4

Site Number: 036

Exact location of well or source of sample or well number: _____

AT AWACS Hangar

Date: 8/18/88 Time: 1445 Weather: partly cloudy - calm 60°

Sample Number: 036-0003 Type of Sample: Water

Preservative Type and Amount: Cool to 4°C; add HCl or HNO₃ by lab

Point and Method of Collection: Water surface with teflon bottles

Water Level: 23.59 Rate of Discharge: -

Duration of Pumping Prior to Sampling: 4.5 gal (3 well volumes)

Depth of Well: 30.15' Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: _____

Types of Screens, Slots, Perforations, or Louvers: _____

Water Bearing Formation(s): See Well Completion forms

Water Temperature: 7.0°C pH: 7.23

Conductivity: 505

Appearance and any Other Relevant Data: brown, turbid; no odors
or sheen

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: IS-5 Site Number: 037

Exact location of well or source of sample or well number: _____

S of 17th TAS hangar near refueling stand

Date: 8/17/88 Time: 1000 Weather: mostly cloudy 60°

Sample Number: 037-0003 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ HNO₃ or NaOH added by lab

Point and Method of Collection: at water level w/ teflon liner

Water Level: 49.68 ft ~~245.8 ft~~ (TWC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 10 min p 4.5 gal purged

Depth of Well: 59.90 ft Diameter of Well: 5.5 in

Screened, Slotted, Perforated, or Louvered Intervals: see well completion log

Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 5.8°C pH: 7.28

Conductivity: 190

Appearance and any Other Relevant Data: no odor, no smell

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: IS-6 Site Number: 038

Exact location of well or source of sample or well number: Adjacent to 17th TAS Hangar near E end

~ of EW Runway

IS-6

Date: 8/17/88 Time: 0830 Weather: Mostly cloudy 60°

Sample Number: 038-0003 Type of Sample: Gravel

Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: at water level w/ ref on bank

Water Level: 49.87 ft (bar) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 4.5 gal purged

Depth of Well: 59.92 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 55°C pH: 7.12

Conductivity: 250 umhos/cm

Appearance and any Other Relevant Data: no odor or skew

Samplers Initials: snb

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FIELD RECORD SHEET

Site Name: IS-7 Site Number: 039

Exact location of well or source of sample or well number: _____

behind vehicle maintenance bldg.
well # IS-7

Date: 8/17/88 Time: 1410 Weather: mostly cloudy 60° Clearing

Sample Number: 039-0003 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ HNO₃ or NaOH added by lab

Point and Method of Collection: at water level w/teflon bailer

Water Level: 13.56 ft (TCC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 6.6 gal purged

Depth of Well: 26.72 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion form

Types of Screens, Slots, Perforations, or Louvers: _____

Water Bearing Formation(s): see log of boring

Water Temperature: ~~7.14~~ 8.5°C pH: 7.14

Conductivity: 312

Appearance and any Other Relevant Data: no odor or sheer

Samplers Initials: SM3

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FIELD RECORD SHEET

Site Name: IS-08

Site Number: 040

Exact location of well or source of sample or well number: _____

West of CCLT Newgarc -
(well # IS-8)

Date: 8/17/88 Time: 1200 Weather: Mostly cloudy, calm 60°

Sample Number: 040-0003 & 0003D Type of Sample: Grab

Preservative Type and Amount: HCl, H₂SO₄, HNO₃ or NaOH added by lab

Point and Method of Collection: at water level with Teflon bucket
(deconned)

Water Level: 24.58 ft (toc) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 6 cyl perched (3 well vol)

Depth of Well: 36.02 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See boring log

Water Temperature: 8.5°C pH: 7.10

Conductivity: 345 umhos/cm

Appearance and any Other Relevant Data: Slight odor & sheen

water very clear - no turbidity

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: SP-1-01 Site Number: 049

Exact location of well or source of sample or well number: _____

SP-1 ~~001~~ - 01

S of Corps of Engineers Building

Date: 8/22/88 Time: 1420 Weather: light rain 55°

Sample Number: 049-0003 Type of Sample: Grab

Preservative Type and Amount: HCl 10% 50 ml added by lab

Point and Method of Collection: at water surface with Teflon
bottle

Water Level: 8.69 ft (loc) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 8 gal purged

Depth of Well: 2321 ft Diameter of Well: 210 ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 9.0°C pH: 6.92

Conductivity: 400 umhos/cm

Appearance and any Other Relevant Data: Sheen & Strong POC
odor observed

Samplers Initials: EMB

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FIELD RECORD SHEET

Site Name: SPI-02

Site Number: 050

Exact location of well or source of sample or well number: _____

S of Corps of Engineers bldg.
E of SPI-01

Date: 8/22/88 Time: 1500 Weather: RAIN 55°

Sample Number: 050-0003 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ added by lab

Point and Method of Collection: Teflon bailer at water surface

Water Level: 36.29 ft (TOC) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 7.5 gal purged

Depth of Well: 51.32 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion form

Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): See boring log

Water Temperature: 8°C pH: 7.19

Conductivity: 340

Appearance and any Other Relevant Data: Shewn strong POL odor
observed

Samplers Initials: EMB

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FIELD RECORD SHEET

Site Name: SPA/6 -01 Site Number: 051

Exact location of well or source of sample or well number: _____

well no 051 at site SPA/6

Date: 8/10/88 Time: 1235 Weather: light rain 55°

Sample Number: 051-0002 Type of Sample: Grab

Preservative Type and Amount: HCL H₂SO₄ & HNO₃ added by lab

Point and Method of Collection: Teflon Bailor at water level

Water Level: 40.75 ft (TWC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: purged 7.5 gal (2 well vol.)

Depth of Well: 54.00 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion log

Types of Screens, Slots, Perforations, or Louvers: See well completion log

Water Bearing Formation(s): See log of boring

Water Temperature: 7 8.2°C pH: 7.09

Conductivity: 360 μ hos

Appearance and any Other Relevant Data: no odor or slen

Samplers Initials: GMB

FIELD RECORD SHEET

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Site Name: SP2/6-02 Site Number: (052)

Exact location of well or source of sample or well number: _____

Well # 2/6-02

Date: 8/10/88 Time: 1535 Weather: Rain

Sample Number: 052-0002 Type of Sample: Water

Preservative Type and Amount: HCl, H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Water surface with teflon bailer

Water Level: 32.49 Rate of Discharge: —

Duration of Pumping Prior to Sampling: 7.5 gal (3 well vol)

Depth of Well: 47.79 Diameter of Well: 2 in. ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): See Well Completion log

Water Temperature: 9.0°C pH: 6.96

Conductivity: 345 umhos/cm

Appearance and any Other Relevant Data: turbid, petroleum sheen
+ odor, both decreasing with continued bailing

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: SP216-03 Site Number: 053

Exact location of well or source of sample or well number: _____

Area south of and adjacent to Bluff road
well # SP216-03

Date: 8/13/88 Time: 0930 Weather: partly cloudy 55°

Sample Number: 053-0002 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ or H₂O₂ added by lab

Point and Method of Collection: at water level w/ teflon bailer

Water Level: 37.55 ft (TOD) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 9 gal purged (3 well vol)

Depth of Well: 53.82 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion form

Types of Screens, Slots, Perforations, or Louvers: see well completion form

Water Bearing Formation(s): section of boring

Water Temperature: 7.2°C pH: 7.07

Conductivity: 700 μ hos/cm

Appearance and any Other Relevant Data: no visible contamination
slight H₂S odor

Samplers Initials: GMB

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FIELD RECORD SHEET

Site Name: SP216-04 Site Number: 054

Exact location of well or source of sample or well number: _____

Along Bluff Road, South of CE shops
well # SP216-04

Date: 8/13/88 Time: 0840 Weather: partly cloudy 55° slight breeze

Sample Number: 054-0002 Type of Sample: Grab

Preservative Type and Amount: HCl 14.5oz or 14.003 added by lab

Point and Method of Collection: Teflon bailer at water surface

Water Level: 38.30ft Rate of Discharge: -

Duration of Pumping Prior to Sampling: 9 gal purged (3 well vol)

Depth of Well: 53.65ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion

Types of Screens, Slots, Perforations, or Louvers: see well completion

Water Bearing Formation(s): see log of boring

Water Temperature: 7.0°C pH: 6.98

Conductivity: 332 μ hos/cm

Appearance and any Other Relevant Data: No sheen or visible
contaminants, slight H₂S odor

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: SP ~~202~~ 2/6 -05 Site Number: 055

Exact location of well or source of sample or well number: _____

Along Bluff Road South of small arms
shooting range

Date: 8/16/88 Time: 0955 Weather: Sunny calm 65°

Sample Number: 055-0003 Type of Sample: Grab

Preservative Type and Amount: HCl or H₂SO₄ added prev. by lab

Point and Method of Collection: at water level w/ Teflon
bailey (d-conew)

Water Level: 32.97 ft (Toc) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 9 gal (3 well vols)

Depth of Well: 48.91 ft Diameter of Well: 2.0 ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 9.0°C pH: 7.02

Conductivity: 343 umhos/cm²

Appearance and any Other Relevant Data: Strong POL odor

Samplers Initials: SWB

Figure 2.6-6

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FIELD RECORD SHEET

Site Name: SWGA SP2/6 Site Number: 062

Exact location of well or source of sample or well number: _____

Well # 062 - 0001

Date: 8/10/88 Time: 1435 Weather: Rain

Sample Number: 062-0001 Type of Sample: Water

Preservative Type and Amount: HCl, H₂SO₄ or HNO₃, added by lab

Point and Method of Collection: Water surface with teflon bailer

Water Level: 31.62 Rate of Discharge: —

Duration of Pumping Prior to Sampling: 3 gal (3 well volumes)

Depth of Well: 39.48 Diameter of Well: 2 in. ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): ~~See Well Completion Log~~

Water Temperature: 8.0 °C pH: 7.03

Conductivity: 340 μ mhos/cm

Appearance and any Other Relevant Data: Cloudy, petroleum odor
+ sheen.

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: SP4-01

Site Number: 063

Exact location of well or source of sample or well number: _____

Along gravel road N of golf course and
W of YP 4 tanks. Adjacent to beaver pond

Date: 8/12/88 Time: 1415 Weather: Sunny 60° light wind

Sample Number: 063-0003 Type of Sample: Grab

Preservative Type and Amount: HCl or H₂SO₄ added by lab

Point and Method of Collection: Teflon bucket at water surface

Water Level: 5.40 ft (ROC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 10.5 gal pumped (3 well vol)

Depth of Well: 27.22 ft Diameter of Well: 210 ID

Screened, Slotted, Perforated, or Louvered Intervals: see completion form

Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 9.5°C pH: 7.10

Conductivity: 292 umhos/cm

Appearance and any Other Relevant Data: No odor or Shen

Samplers Initials: SMD

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FIELD RECORD SHEET

Site Name: SP4-02 Site Number: 064

Exact location of well or source of sample or well number: Golf Course seep N of course, W of
JP 4 tanks

Date: 8/16/88 Time: 1045 Weather: Sunny calm 68°
Sample Number: 064-0003 Type of Sample: Grav
Preservative Type and Amount: HCl or H2SO4 pre-added by lab
Point and Method of Collection: at water level with d-conned
teflon bailer

Water Level: 5.67 ft (roc) Rate of Discharge: —
Duration of Pumping Prior to Sampling: 10.5 gal purged
Depth of Well: 26.65 ft Diameter of Well: 2.5 ID
Screened, Slotted, Perforated, or Louvered Intervals: see well completion form
Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 7.8°C pH: 7.29
Conductivity: 255 umhos/cm

Appearance and any Other Relevant Data: no visible contamination
or odor

Samplers Initials: SNB

FIELD RECORD SHEET

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Site Name: SP4-03Site Number: 065

Exact location of well or source of sample or well number: _____

WCC Well SP4-03Date: 8/29/88 Time: 0925 Weather: Heavy RainSample Number: 065-0003 Type of Sample: WaterPreservative Type and Amount: HCl H₂SO₄ added by labPoint and Method of Collection: Water surface with Teflon bailer.Water Level: 39.68' Rate of Discharge: —Duration of Pumping Prior to Sampling: 9 gals (3 well volumes)Depth of Well: 57.69' Diameter of Well: 2 in IDScreened, Slotted, Perforated, or Louvered Intervals: See Well Completion LogTypes of Screens, Slots, Perforations, or Louvers: See Well Completion LogWater Bearing Formation(s): See Boring LogWater Temperature: 16.5 °C pH: 5.3Conductivity: 340Appearance and any Other Relevant Data: Turbid; ^{POL} odor + sheenSamplers Initials: DM

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FIELD RECORD SHEET

Site Name: SP5-2 Site Number: 072

Exact location of well or source of sample or well number: on bluff
N of EW runway, in area of buried JP-4 Tanks

Date: 8/4/88 Time: 1115 Weather: sunny 65° light breeze
Sample Number: 072-0003 Type of Sample: Grab
Preservative Type and Amount: HCl + H₂SO₄ added by lab
Point and Method of Collection: Teflon bailer at well surface
water

Water Level: 37.11 ft (TCC) Rate of Discharge: -
Duration of Pumping Prior to Sampling: 9 gal purged (3 well vol)
Depth of Well: 48.46 ft (TCC) Diameter of Well: 2 in ID
Screened, Slotted, Perforated, or Louvered Intervals: See completion form
Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 7.5°C pH: 7.32
Conductivity: 605

Appearance and any Other Relevant Data: No sheen or odor

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: SP5-02 (073) Site Number: 073

Exact location of well or source of sample or well number: _____

well no SP5-02 installed in 1988

Site situated on hill north of SW Runway in area of JP-4 tanks (underground)

Date: 7/19/88 Time: 1400 Weather: Sunny, high 50's°

Sample Number: 673-0003 Type of Sample: water (ground)

Preservative Type and Amount: HCL, H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Bailer of water level

Water Level: 22.00 ft (roc) Rate of Discharge: e

Duration of Pumping Prior to Sampling: 57 gal-45 develop

Depth of Well: 40 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion form

Types of Screens, Slots, Perforations, or Louvers: 0.02

Water Bearing Formation(s): see log of boring

Water Temperature: 9.4°C pH: 7.13

Conductivity: 720

Appearance and any Other Relevant Data: no odor or sheen

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: SP5-~~06~~ 06

Site Number: ~~078~~ 077

Exact location of well or source of sample or well number: well # SP5-07
located on bluff above EW runway in vicinity of
buried TP-4 tanks

Date: 8/4/88 Time: ~~1540~~ 1510 Weather: Sunny, 65°F light breeze
Sample Number: 078-0003 Type of Sample: Grab
Preservative Type and Amount: HCl, H₂SO₄ and HNO₃ added by lab
Point and Method of Collection: Teflon bailer at water surface

Water Level: 34.81 ft
~~34.70 ft~~ (TCC) Rate of Discharge: —
Duration of Pumping Prior to Sampling: purged 12 gal. (3 well vols)
Depth of Well: 50.65 ft (TCC) Diameter of Well: 2 in ID
Screened, Slotted, Perforated, or Louvered Intervals: See well completion form
Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 7.00 C pH: 7.17
Conductivity: 580 ~~umhos/cm~~

Appearance and any Other Relevant Data: no visible contamination or
odor

Samplers Initials: SWB

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FIELD RECORD SHEET

Site Name: SPS-07 Site Number: 078

Exact location of well or source of sample or well number: on bluff N of
EW Runway in vicinity of underground GP-4 tanks

Date: 8/5/88 Time: 1300 Weather: rain
Sample Number: 078-0003 Type of Sample: Grab
Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab
Point and Method of Collection: Teflon bailer at water level

Water Level: 34.54 ft (TAC) Rate of Discharge: -
Duration of Pumping Prior to Sampling: well bailed dry 4¹⁶ times (total of 16)
Depth of Well: 55.92 ft Diameter of Well: DIN ID
Screened, Slotted, Perforated, or Louvered Intervals: See completion form
Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): See log of boring

Water Temperature: ~~6.0~~ 5.9°C pH: 7.63
Conductivity: 700 μ mhos/cm

Appearance and any Other Relevant Data: no sheen, slight
petroleum odor

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: ELM (0687)

Site Number: SPS-08 (079)

Exact location of well or source of sample or well number: _____

SPS-08 (028) N of SPS site, 20 ft S
of high voltage line.

Date: 8 July 88 Time: _____ Weather: 60°, clear, wind W@S
Sample Number: 0687 - 000 - NG - 079 Type of Sample: water
GN - 88 - 0003
Preservative Type and Amount: VCA - HCL, 418.1 - H₂SO₄, 160.1 - NEAT
Point and Method of Collection: Boiler

Water Level: 157 ft (TOL) Rate of Discharge: _____

Duration of Pumping Prior to Sampling: _____

Depth of Well: 25 ft from ground surface Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: screened 10-25 ft depth

Types of Screens, Slots, Perforations, or Louvers: 0.02 in screen

Water Bearing Formation(s): fine SAND

Water Temperature: _____ pH: _____

Conductivity: _____

Appearance and any Other Relevant Data: _____

Casing sticks up above ground surface = 2.5 ft

Samplers Initials: RGD

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FIELD RECORD SHEET

Site Name: SP5-08

Site Number: 079

Exact location of well or source of sample or well number: on bluff N
of EW Runway in vicinity of underground JP-4 tanks

Date: 8/4/88 Time: 1540 Weather: Sunny, 65°F < 5 mph wind
Sample Number: 079-0003 Type of Sample: Grab
Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab
Point and Method of Collection: Teflon bailer at water surface

Water Level: 16.49 ft (TWC) Rate of Discharge: -
Duration of Pumping Prior to Sampling: 2 gal purged (4 well vols)
Depth of Well: 27.48 ft Diameter of Well: 2 in ID
Screened, Slotted, Perforated, or Louvered Intervals: See completion form
Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): See log of boring

Water Temperature: ~~6.5°F~~ 6.5°C pH: 7.42
Conductivity: 255 μ m/cm

Appearance and any Other Relevant Data: no odor or smell

Samplers Initials: SWB

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FIELD RECORD SHEET

Site Name: SP-5-10 Site Number: 081

Exact location of well or source of sample or well number: _____

well no. SP-5-10
on bluff above runway on road below buried
JP-4 tanks

Date: 8/5/88 Time: 1530 Weather: Light rain

Sample Number: 081-0003 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Teflon bailer at water surface

Water Level: 3.60 (TDC) ft Rate of Discharge: -

Duration of Pumping Prior to Sampling: well purged 2 times - 5 gal total

Depth of Well: 12.75 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see completion form

Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): see log of boring

Water Temperature: ~~7.47~~ 7.50°C pH: 7.47

Conductivity: 620 μ mhos/cm

Appearance and any Other Relevant Data: petroleum odor (strong)
and sheen observed on liquid

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: SP5-20

Site Number: 126 ~~126~~

Exact location of well or source of sample or well number: _____

WCC Well - 126-0003

Date: 8/29/88 Time: 0830 Weather: Heavy Rain

Sample Number: 126-0003 Type of Sample: Water

Preservative Type and Amount: HCl; H₂SO₄ added by lab

Point and Method of Collection: Water surface with Teflon bailer

Water Level: 2.92' Rate of Discharge: —

Duration of Pumping Prior to Sampling: 4.5 gal (3 well volumes)

Depth of Well: 11.56' Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See Well Completion Log

Types of Screens, Slots, Perforations, or Louvers: See Well Completion Log

Water Bearing Formation(s): See Boring Log

Water Temperature: 7.0°C pH: 7.06

Conductivity: 360

Appearance and any Other Relevant Data: turbid; no odor or sheen;
slight H₂S odor

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: SP5A - 15

Site Number: 067

Exact location of well or source of sample or well number: on left N of
EW Runway - in vicinity of JP-4 tanks

Date: 8/5/88 Time: 1445 Weather: RAIN
Sample Number: 067-0004 Type of Sample: Grab
Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added
Point and Method of Collection: Teflon bailer at water surface

Water Level: 11.38 ft (TOC) Rate of Discharge: -
Duration of Pumping Prior to Sampling: bailed dry 1 time (TOTAL 2 gal)
Depth of Well: 21.79 ft Diameter of Well: 21.25 ID
Screened, Slotted, Perforated, or Louvered Intervals: see well completion form
Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 8.50C pH: 8.57
Conductivity: 820

Appearance and any Other Relevant Data: no sheen but slight
petroleum odor was detected

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: SP 5 A - 16 Site Number: 068

Exact location of well or source of sample or well number: _____

located N of EW Runway in vicinity of
underground JP-4 tanks

Date: 8/5/88 Time: 1420 Weather: RAIN

Sample Number: 068-0004 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Teflon bailer at water surface

Water Level: 16.79 ft (TDC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 3 gal pumped (3 well vol)

Depth of Well: 32.22 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 70 °C pH: 7.86

Conductivity: 1020 umhos/cm

Appearance and any Other Relevant Data: pure product evident on
surface of water in first bailer removed (about 1/4" thick)
oil droplets can be seen in sample jars
strong odor

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: SP 518

Site Number: 070

Exact location of well or source of sample or well number: on bluff above EW Runway in vicinity of
buried GP-4 tanks

Date: 7/19/88 Time: 1405 Weather: Sunny high 50's

Sample Number: 070-0004 Type of Sample: Grab

Preservative Type and Amount: AClorH2SO4 added by lab

Point and Method of Collection: Teflon bailer at water level

Water Level: 14ft 4in (TDC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: well bailed dry, allowed to recharge

Depth of Well: 20ft 7in Diameter of Well: 2in ID

Screened, Slotted, Perforated, or Louvered Intervals: See completion log

Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 8.5°C pH: 6.17

Conductivity: 380 umhos/cm

Appearance and any Other Relevant Data: No slum or odors

Samplers Initials: SWB

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FIELD RECORD SHEET

Site Name: SP 5A-19

Site Number: 071

Exact location of well or source of sample or well number: located on
bluff above EW runway near JP-4 tanks

Date: 8/5/88 Time: 1348 Weather: RAIN

Sample Number: 071-0004 Type of Sample: Grav

Preservative Type and Amount: HCl or H₂SO₄ added by lab

Point and Method of Collection: Teflon bucket at water level

Water Level: 16.18ft
~~15.80ft~~ (roc) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 3 gal purged (3 well vol)

Depth of Well: 22.19ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion log

Types of Screens, Slots, Perforations, or Louvers: " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 16.5°C pH: 7.09

Conductivity: 350 μ hos/cm

Appearance and any Other Relevant Data: Slight petroleum odor
no stream

Samplers Initials: SWB

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FIELD RECORD SHEET

Site Name: SP7/10-01 Site Number: 084

Exact location of well or source of sample or well number: _____

Immed N of EW Runway west of AUACS
and S of Taxiway #8

Date: 8/15/88 Time: 0935 Weather: Sunny calm 65°

Sample Number: 084-0003 Type of Sample: Grab

Preservative Type and Amount: HCL or H2SO4 added by lab

Point and Method of Collection: at water level w/ replem bailer

Water Level: 15.00ft (TAC) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 10.5 gal purged (3 well vol)

Depth of Well: 34.92ft Diameter of Well: 2ip ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 7.0°C pH: 7.11

Conductivity: 405 μ mhos/cm

Appearance and any Other Relevant Data: NO odor or shown

Samplers Initials: SMZ

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FIELD RECORD SHEET

Site Name: ~~SP 2/6~~ SP7/10-02 Site Number: 085

Exact location of well or source of sample or well number: _____

Immed. North of EW Runway, west of AWACS
and South of Taxiway 8

Date: 8/15/88 Time: 0845 Weather: Sunny calm 60°

Sample Number: 085-0003 Type of Sample: Grab

Preservative Type and Amount: HCl or H₂SO₄ added by lab

Point and Method of Collection: At water level with Tepton bailer

Water Level: 16.45 ft (roc) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 4.5 gal purged (3 well vol)

Depth of Well: 25.35 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 6.5°C pH: 6.98

Conductivity: 481 μ mhos/cm

Appearance and any Other Relevant Data: NO odors, NO sheen

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: SP7/10-03 Site Number: 086

Exact location of well or source of sample or well number: _____

well # SP7/10-03 N of EW Runway
west of AWC5

Date: 8/15/88 Time: 1040 Weather: Sunny calm 70°
Sample Number: 086-0003 Type of Sample: Grab
Preservative Type and Amount: HCl or H₂SO₄ added by lab
Point and Method of Collection: Teflon bailer at water level

Water Level: 25.45 ft (TCC) Rate of Discharge: —
Duration of Pumping Prior to Sampling: 4.5 gal (3 well vol)
Depth of Well: 32.85 ft Diameter of Well: 2 in ID
Screened, Slotted, Perforated, or Louvered Intervals: see well completion form
Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 8.5°C pH: 5.37
Conductivity: 230 umhos/cm

Appearance and any Other Relevant Data: slight POC odor at start
ended as purging continued.
NO sheen

Samplers Initials: SWB

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FIELD RECORD SHEET

Site Name: SP7/10-04

Site Number: 087

Exact location of well or source of sample or well number: _____

well # SP7/10-04

N of E W Runway, west of AUACS

Date: 8/15/88 Time: 1200 Weather: Sunny calm 70°

Sample Number: 087-0003 Type of Sample: Grab

Preservative Type and Amount: HCl or H₂SO₄ added by lab

Point and Method of Collection: at water level w/ region marker

Water Level: ^{19.60}
~~38.82~~ ft (TOC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: ~~10.5~~ 8.5 gal purged

Depth of Well: 31.95 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 8.0°C pH: 6.72

Conductivity: 415 μ mhos/cm²

Appearance and any Other Relevant Data: POL odor & sheen

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: SP 7/10 W-3 Site Number: 088

Exact location of well or source of sample or well number: _____

Dames & Moore well N of EW Runway
west of AHS

Date: 8/15/88 Time: 1125 Weather: Sunny calm 70°

Sample Number: 088-0001 Type of Sample: Grab

Preservative Type and Amount: HCl or H₂SO₄ added by lab

Point and Method of Collection: at water level w/ Teflon Bailor

Water Level: 22.00 ft (TOD) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 7.5 gal purged

Depth of Well: 34.96 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): unknown

Water Temperature: 8.8°C pH: 6.94

Conductivity: 495 μ mhos/cm

Appearance and any Other Relevant Data: 1/2 in of Pure product in
bailer during purge, very strong for odor

Samplers Initials: SMR

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FIELD RECORD SHEET

Site Name: SP7/10 W-4 Site Number: 089

Exact location of well or source of sample or well number: _____

Dames & Moore well W-4
corner of taxiway 6 x 8 - West end
of E runway

Date: 8/15/88 Time: 1005 Weather: Sunny hot calm 70°
Sample Number: 089-0001 Type of Sample: Grab
Preservative Type and Amount: HCl or H₂SO₄, added by lab
Point and Method of Collection: at water level w/ 5m tefton bailer

Water Level: 13.75 ft (TLC) Rate of Discharge: -
Duration of Pumping Prior to Sampling: 7.5 gal (3 well vols)
Depth of Well: 28.18 ft Diameter of Well: 2 in ID
Screened, Slotted, Perforated, or Louvered Intervals: unknown
Types of Screens, Slots, Perforations, or Louvers: unknown

Water Bearing Formation(s): unknown

Water Temperature: 9.1°C pH: 6.99
Conductivity: 458 μ mhos/cm

Appearance and any Other Relevant Data: Strong POL odor
Slight green

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: 0687 - SP-11 GW-14 Site Number: 090-0003

Exact location of well or source of sample or well number: _____

SP-11 GW-14

WCC: 090-0003

Date: 8/12/88 Time: 0820 Weather: Sunny 60°

Sample Number: 090-0003 Type of Sample: Water

Preservative Type and Amount: Chill to 4°C; Add HCl or H₂SO₄ by lab.

Point and Method of Collection: Water surface with teflon bailer

Water Level: 3.71 Rate of Discharge: —

Duration of Pumping Prior to Sampling: 12 gals (3 well volumes)

Depth of Well: 23.4 Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): —

Water Temperature: 5.7° pH: 7.2

Conductivity: 215

Appearance and any Other Relevant Data: Water was clear at first purging, slightly cloudy with continued bailing.

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: SP-11 GW 4A

Site Number: 091-0001

Exact location of well or source of sample or well number: _____

SP-11 GW 4A

091

Date: 8/12/88 Time: 0900 Weather: Sunny 60°

Sample Number: 091-0001 Type of Sample: Water

Preservative Type and Amount: Chill to 4°C. Add HCl or HNO₃ by lab

Point and Method of Collection: Water surface with teflon bailer.

Water Level: 6.62 Rate of Discharge: -

Duration of Pumping Prior to Sampling: 4.5 gals (3 well volumes)

Depth of Well: 14.49 Diameter of Well: 2 in. ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): Unknown

Water Temperature: 8.0 pH: 6.96

Conductivity: 265

Appearance and any Other Relevant Data: Water first appeared clear with orange particulates & POL odor, becoming turbid with sheen & odor

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: SP12 W-9

Site Number: 092-0001

Exact location of well or source of sample or well number: _____

Dames & Moore Well W-9 SP12
WCC # 092

Date: 8/12/88 Time: 1030 Weather: Sunny, 60°

Sample Number: 092-0001 Type of Sample: Water

Preservative Type and Amount: Chill to 4°C; Add HCl or HNO₃ by lab

Point and Method of Collection: Water surface with teflon bailer

Water Level: 23.18 Rate of Discharge: —

Duration of Pumping Prior to Sampling: 9 gals (3 well volumes)

Depth of Well: 39.54 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): Unknown

Water Temperature: 7.5° pH: 7.21

Conductivity: 500

Appearance and any Other Relevant Data: Brown & turbid, no odor or
seen, becoming clearer at end of purge

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: GW 3A (SP-12)

Site Number: 093

Exact location of well or source of sample or well number: _____

located S of EW Runway near fire station
well installed in 1987

Date: 8/12/88 Time: 1212 Weather: mostly sunny 60°F light wind

Sample Number: 693-0001

Type of Sample: Grab

Preservative Type and Amount: Teflon bailer at water level

Point and Method of Collection: HCl or H₂SO₄ added by lab

Water Level: 23.18 ft (TDC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 6 gal purged (3 well vols)

Depth of Well: 34.19 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: unknown

Types of Screens, Slots, Perforations, or Louvers: unknown

Water Bearing Formation(s): unknown

Water Temperature: 7.5°C pH: 7.26

Conductivity: 445 μ mhos/cm

Appearance and any Other Relevant Data: no odor or sheen

Samplers Initials: gmb

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FIELD RECORD SHEET

Site Name: SP14-1 (696) Site Number: 096

Exact location of well or source of sample or well number: _____

well no SP14-1
located in grassy area NE of commissary
and SE of Family Services Bldg.

Date: 8/11/88 Time: 0930 Weather: mostly cloudy 55°
Sample Number: 096-0003 Type of Sample: Grab
Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab
Point and Method of Collection: Teflon Bailers at water level

Water Level: 31.89 ft (TOC) Rate of Discharge: -
Duration of Pumping Prior to Sampling: Portugal 5 gal (3 well vol.)
Depth of Well: 43.00 ft (TOC) Diameter of Well: 2 in ID
Screened, Slotted, Perforated, or Louvered Intervals: see well completion form
Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 8.5°C pH: 6.86
Conductivity: 322 mho

Appearance and any Other Relevant Data: No visible contaminants or
odor

Samplers Initials: _____

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FIELD RECORD SHEET

Site Name: SP-14-2

Site Number: 097

Exact location of well or source of sample or well number: _____

well No 097
located near intersection of 2nd and "N" streets
SE of Kenai dining hall

Date: 8/1/88 Time: 0830 Weather: partly cloudy, light wind

Sample Number: 097-0003 Type of Sample: Grab

Preservative Type and Amount: HCl, H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Teflon bucket at water table

Water Level: 36.17 ft Rate of Discharge: -

Duration of Pumping Prior to Sampling: Purged 6 gallons

Depth of Well: 47.83 ft Diameter of Well: 2 in

Screened, Slotted, Perforated, or Louvered Intervals: see well completion form

Types of Screens, Slots, Perforations, or Louvers: see log of boring
well completion form

Water Bearing Formation(s): see log of boring

Water Temperature: 7.0 °C pH: 6.79

Conductivity: 275 μ hos

Appearance and any Other Relevant Data: no visible contaminants
or smell or odor

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: W-17 (098)

Site Number: ~~#~~ 098-0001

Exact location of well or source of sample or well number: _____

SP 14 D+M Well W-17

WCC: 098

Date: 8/11/88 Time: 1115 Weather: Wind to 20 Kts; overcast

Sample Number: 098-0001 Type of Sample: Water

Preservative Type and Amount: Cool to 4°C; HCl or HNO₃ added by lab

Point and Method of Collection: _____

Water Level: 29.75 Rate of Discharge: —

Duration of Pumping Prior to Sampling: 10.5 gals (3 well volumes)

Depth of Well: 48.76 Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): _____

Water Temperature: 8.5 pH: 7.6

Conductivity: 310

Appearance and any Other Relevant Data: Water was slightly cloudy - no
odors or shen. Duplicate sampling site. Ambient
conditions blank collected (6 VOA's)

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: GW-7A SP 14

Site Number: 099

Exact location of well or source of sample or well number: _____

DrM Well 7A SP 14 WCC: 099

Date: 8/11/88 Time: 1025 Weather: Wind to 20 Kts; overcast

Sample Number: 099-0001 Type of Sample: Water

Preservative Type and Amount: Cool to 4°C; Add HCl/HNO₃ by lab

Point and Method of Collection: Water surface with teflon bailer

Water Level: 31.55 Rate of Discharge: —

Duration of Pumping Prior to Sampling: 4.5 gals (3 well volumes)

Depth of Well: 39.21 Diameter of Well: 2 in. ID

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): _____

Water Temperature: 9.0 pH: 7.03

Conductivity: 345

Appearance and any Other Relevant Data: First water bailed was clear with
no odor or sheen; after 1.5 gals turbid ^{pour} but no odor or
sheen - same for remainder of pumping

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: SP-15-1

Site Number: 100

Exact location of well or source of sample or well number: _____

S of EW Runway
NW of Bldg 6-900

Date: 8/22/88 Time: 1130 Weather: RAIN 55°

Sample Number: 100-0003 Type of Sample: Grab

Preservative Type and Amount: HCl HNO₃ or H₂SO₄ added by lab

Point and Method of Collection: _____

Teflon bailer at water surface

Water Level: 28.27 ft (ROC) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 7 gal

Depth of Well: 37.56 ft Diameter of Well: 3 IN ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 7.0°C pH: 7.21

Conductivity: 650

Appearance and any Other Relevant Data: Slight sheen and

Slight odor noted

DOL

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: SP 15-02

Site Number: 101

Exact location of well or source of sample or well number: _____

S of EW Runway
N of SP 15-1

Date: 8/22/88 Time: 1205 Weather: RAIN

Sample Number: 101-0003 Type of Sample: Grab

Preservative Type and Amount: HCl, H₂SO₄, HNO₃ added by lab

Point and Method of Collection: Top of bailer at water level

Water Level: 27.78 ft (TOD) Rate of Discharge: -

Duration of Pumping Prior to Sampling: 6 gal

Depth of Well: 39.43 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 7.0 °C pH: 7.02

Conductivity: 900 umhos/cm²

Appearance and any Other Relevant Data: No odor, No sheen

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: NS-2-01 (106) Site Number: (106)

Exact location of well or source of sample or well number: _____

well # NS-2-01

Date: 8/8/88 Time: 1320 Weather: partly sunny 70°F calm
Sample Number: 106-0003 Type of Sample: Grab
Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab
Point and Method of Collection: Teflon bailers at water level

Water Level: 38.80 ft (TDC) Rate of Discharge: -
Duration of Pumping Prior to Sampling: 9 gal purged (3 well vol)
Depth of Well: 54.50 ft Diameter of Well: 2 in ID
Screened, Slotted, Perforated, or Louvered Intervals: see well completion form
Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): see log of boring

Water Temperature: 7.0°C pH: 6.77
Conductivity: 210 μ mhos/cm

Appearance and any Other Relevant Data: No odor or smell

Samplers Initials: SM3

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FIELD RECORD SHEET

Site Name: NS2-2

Site Number: 107

Exact location of well or source of sample or well number: _____

well no NS2-2 located N of gravel pit which is
E of EAFB

Date: 8/8/88 Time: 1445 Weather: partly sunny, 70° no wind

Sample Number: 167-0003 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added

Point and Method of Collection: Teflon bailer at water surface

Water Level: 40.00 ft Rate of Discharge: -

Duration of Pumping Prior to Sampling: 9 gal purged (3 well vol)

Depth of Well: 57.25 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: see well completion form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 6.5°C pH: 6.76

Conductivity: 227 μ mhos/cm

Appearance and any Other Relevant Data: cloudy, no odor or color

Samplers Initials: SNB

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FIELD RECORD SHEET

Site Name: NS3-2 Site Number: 111

Exact location of well or source of sample or well number: _____

NS3-2 Golf course seep

Date: 8/23/88 Time: 0830 Weather: mostly sunny 55°

Sample Number: 111-0003 Type of Sample: _____

Preservative Type and Amount: HCl or H₂SO₄ added by lab

Point and Method of Collection: Teflon bucket at water level

Water Level: 3.91 ft (GOC) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 12 gals purged

Depth of Well: 27.07 ft Diameter of Well: 2 in id

Screened, Slotted, Perforated, or Louvered Intervals: see well completion form

Types of Screens, Slots, Perforations, or Louvers: 1" 1" 1" 1"

Water Bearing Formation(s): See boring log

Water Temperature: 9.0°C pH: 7.44

Conductivity: 249 μ mhos/cm²

Appearance and any Other Relevant Data: NO odor or sheen observed

Samplers Initials: SNB

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FIELD RECORD SHEET

Site Name: NS3-3 Site Number: 110

Exact location of well or source of sample or well number: _____

NS3-3 Golf Course Seep

Date: 8/23/88 Time: 1030 Weather: mostly sunny 65°

Sample Number: 110-0003 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ & HNO₃ added by lab

Point and Method of Collection: _____

Teflon Nailer at water level

Water Level: 3.60 ft (TAC) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 17 gals purged

Depth of Well: 16.87 ft Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 11°C pH: 4.88

Conductivity: 422

Appearance and any Other Relevant Data: No odor or

sheen observed

Samplers Initials: gmb

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FIELD RECORD SHEET

Site Name: NS3-06 Site Number: 113

Exact location of well or source of sample or well number: _____

well # NS3-06 - Golf Course Seep

Date: 8/23/88 Time: 1200 Weather: mostly sunny 65°

Sample Number: 113-0003 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Teflon beiler at water level

Water Level: 27.93ft (TCC) Rate of Discharge: —

Duration of Pumping Prior to Sampling: 11 gals purged

Depth of Well: 48.11ft (TCC) Diameter of Well: 2 in ID

Screened, Slotted, Perforated, or Louvered Intervals: See well completion form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See log of boring

Water Temperature: 9.0°C pH: 7.11

Conductivity: 380 umhos/cm²

Appearance and any Other Relevant Data: No odors or
sheen observed

Samplers Initials: SNB

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FIELD RECORD SHEET

Site Name: BH-1

Site Number: 119

Exact location of well or source of sample or well number: _____

Base Hydrogeology Well

Date: 8/30/88 Time: 1030 Weather: Overcast 55°

Sample Number: 119-0003 Type of Sample: Water

Preservative Type and Amount: HCl, H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Water surface with teflon bailer

Water Level: 59.1' Rate of Discharge: —

Duration of Pumping Prior to Sampling: 4.5 gal (3 well volumes)

Depth of Well: 69.51' Diameter of Well: 2 in. ID

Screened, Slotted, Perforated, or Louvered Intervals: See Well Completion Log

Types of Screens, Slots, Perforations, or Louvers: _____

Water Bearing Formation(s): See Boring Log

Water Temperature: 5.2 pH: 7.00

Conductivity: 95

Appearance and any Other Relevant Data: Turbid; no odors or color

Duplicate sampling ~~data~~ site

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: BH-3 Site Number: 121

Exact location of well or source of sample or well number: _____

Base Hydrogeology Well 3

Date: 8/30/88 Time: 1000 Weather: Overcast, 55°

Sample Number: 121-0002 Type of Sample: Water

Preservative Type and Amount: HCl, H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Water surface with teflon boiler

Water Level: 17.16' Rate of Discharge: —

Duration of Pumping Prior to Sampling: 1 gal

Depth of Well: 19.72' Diameter of Well: 2 in FD

Screened, Slotted, Perforated, or Louvered Intervals: See Well Completion Form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See Boring Log

Water Temperature: 5.5 pH: 7.49

Conductivity: 705

Appearance and any Other Relevant Data: Water on surface of
very thick muck layer

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: BH-4

Site Number: 122

Exact location of well or source of sample or well number: _____

Base Hydrogeology Well 4

Date: 8/30/88 Time: 0930 Weather: Overcast, 55°

Sample Number: 122-0003 Type of Sample: Water

Preservative Type and Amount: NPO H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Water surface with teflon bucket

Water Level: 5.57' Rate of Discharge: —

Duration of Pumping Prior to Sampling: 7.5 gals (3 well volumes)

Depth of Well: 20.24' Diameter of Well: 2 in. ID

Screened, Slotted, Perforated, or Louvered Intervals: See Well Completion Log

Types of Screens, Slots, Perforations, or Louvers: _____

Water Bearing Formation(s): See Boring Log

Water Temperature: 6.5° C pH: 6.32

Conductivity: 98

Appearance and any Other Relevant Data: turbid brown, no odor or
sheen

MS/MSD site

Ambient conditions blank site

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: BH-5 Site Number: 123

Exact location of well or source of sample or well number: _____

Base Hydrogeology Well 5

Date: 8/30/88 Time: 1225 Weather: Overcast 55°

Sample Number: 123-0003 Type of Sample: Water

Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: Water surface with Teflon Trailer

Water Level: 6.38' Rate of Discharge: —

Duration of Pumping Prior to Sampling: 7 gal (3 well volumes)

Depth of Well: 20.19 Diameter of Well: 2 in. ID

Screened, Slotted, Perforated, or Louvered Intervals: See Well Installation Completion Log

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See Boring Log

Water Temperature: 7.5°C pH: 6.42

Conductivity: 338

Appearance and any Other Relevant Data: slightly cloudy, no odor or phen

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: BH-6

Site Number: 124

Exact location of well, or source of sample or well number: _____

Base Hydrogeology Well 6

Date: 8/30/88 Time: 1220 Weather: Overcast 55°

Sample Number: 124-0003 Type of Sample: Water

Preservative Type and Amount: HCl, H₂SO₄, or HNO₃ added by lab

Point and Method of Collection: Water surface with teflon bailer

Water Level: 11.05' Rate of Discharge: —

Duration of Pumping Prior to Sampling: 1 gal (3 well volumes)

Depth of Well: 12.3' Diameter of Well: 2 in. ID

Screened, Slotted, Perforated, or Louvered Intervals: See Well Completion Form

Types of Screens, Slots, Perforations, or Louvers: " " " "

Water Bearing Formation(s): See Boring Log

Water Temperature: 11.5°C pH: 6.39

Conductivity: 372

Appearance and any Other Relevant Data: slightly cloudy, no odor
or sheen.

Samplers Initials: DM

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FIELD RECORD SHEET

Site Name: BW-1

Site Number: 117

Exact location of well or source of sample or well number: _____

Base water well No. 1

Located in Bldg # 23-990

Date: 8/23/88 Time: 1425 Weather: Sunny 65°

Sample Number: 117-0001 Type of Sample: Grab

Preservative Type and Amount: Hel H₂SO₄ or H₂O₂ added by lab

Point and Method of Collection: _____

Point - unknown

Water Level: unknown Rate of Discharge: —

Duration of Pumping Prior to Sampling: 2 wks of use

Depth of Well: 16ft Diameter of Well: —

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): unknown

Water Temperature: 10.5°C pH: 7.02

Conductivity: 140 μ hos/cm

Appearance and any Other Relevant Data: Very clear water

NO odor, NO color

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: BW-2 Site Number: 118

Exact location of well or source of sample or well number: _____

Base drinking water well
situates at pump house #2 Bldg # 22-006

Date: 8/23/88 Time: 1340 Weather: Mostly Sunny 65°
Sample Number: 118-0001 Type of Sample: Grav
Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added
Point and Method of Collection: _____
Point - unknown method - hose attached to pump

Water Level: Unknown Rate of Discharge: —
Duration of Pumping Prior to Sampling: in use for 2 wks
Depth of Well: Unknown Diameter of Well: Unknown
Screened, Slotted, Perforated, or Louvered Intervals: "
Types of Screens, Slots, Perforations, or Louvers: "

Water Bearing Formation(s): Unknown

Water Temperature: 11.0 °C pH: 7.75
Conductivity: 142

Appearance and any Other Relevant Data: Very clear water,
no odor, no smell

Samplers Initials: SMB

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FIELD RECORD SHEET

Site Name: BW-52 Site Number: 125

Exact location of well or source of sample or well number: _____

at golf course pro shop
Box # 23-100

Date: 8/23/88 Time: 1400 Weather: Sunny 65°

Sample Number: 125-0001 Type of Sample: Grab

Preservative Type and Amount: HCl H₂SO₄ or HNO₃ added by lab

Point and Method of Collection: _____

Point - unknown - Method TAP

Water Level: Unknown Rate of Discharge: -

Duration of Pumping Prior to Sampling: 2 purged tap for 10 min.

Depth of Well: Unknown Diameter of Well: Unknown

Screened, Slotted, Perforated, or Louvered Intervals: Unknown

Types of Screens, Slots, Perforations, or Louvers: Unknown

Water Bearing Formation(s): unknown

Water Temperature: 9.5°C pH: ~~7.0~~ 8.69

Conductivity: 170 ~~microhm/cm~~

Appearance and any Other Relevant Data: _____

Very clear water, no odor no smell

Samplers Initials: SNB

Surface Water Quality Sampling Records

SURFACE WATER QUALITY SAMPLING RECORD

INSTALLATION ID 0687 LOG DATE 8/6/88 LOG TIME 0925
 LOCATION ID N31-1 (102) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 102 SAMPLE DEPTH (FT.) Surface

SAMPLING PERIOD: START 0900 COMPLETE 0910
 SAMPLING METHOD GRAB LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>6.02</u>	_____
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	<u>510</u>	_____
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	_____
TEMPERATURE	TEMP	$^{\circ}\text{C}$	<u>11.0</u>	_____
ALKALINITY (CaCO_3)	ALK	mg/l	<u>358</u>	_____

INSTALLATION ID _____ LOG DATE _____ LOG TIME _____
 LOCATION ID _____ LOT CONTROL NO. _____
 SAMPLE TYPE _____ SAMPLE ID _____ SAMPLE DEPTH (FT.) _____

SAMPLING PERIOD: START _____ COMPLETE _____
 SAMPLING METHOD _____ LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:

				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	_____	_____
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	_____	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	$^{\circ}\text{C}$	_____	_____
ALKALINITY (CaCO_3)	ALK	mg/l	_____	_____

SAMPLE TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

SURFACE WATER QUALITY SAMPLING RECORD

0687

INSTALLATION ID ELM LOG DATE 8/6/88 LOG TIME 1020
 LOCATION ID NS-1-2 (103) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID (103) SAMPLE DEPTH (FT.) Surface

SAMPLING PERIOD: START 1000 COMPLETE 1010
 SAMPLING METHOD Grab LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.44</u>	_____
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>400</u>	_____
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	_____
TEMPERATURE	TEMP	°C	<u>10°C</u>	_____
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>214</u>	_____

INSTALLATION ID _____ LOG DATE _____ LOG TIME _____
 LOCATION ID _____ LOT CONTROL NO. _____
 SAMPLE TYPE _____ SAMPLE ID _____ SAMPLE DEPTH (FT.) _____

SAMPLING PERIOD: START _____ COMPLETE _____
 SAMPLING METHOD _____ LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	_____	_____
SPECIFIC CONDUCTANCE	SC	µmhos/cm	_____	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	°C	_____	_____
ALKALINITY (CaCO ₃)	ALK	mg/l	_____	_____

SAMPLE TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

SURFACE WATER QUALITY SAMPLING RECORD

INSTALLATION ID 6687 ELM LOG DATE 8/6/88 LOG TIME # 1130
 LOCATION ID 13-2-03 (104) LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 104 SAMPLE DEPTH (FT.) _____
 SAMPLING PERIOD: START 1105 COMPLETE 1115
 SAMPLING METHOD GS LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.56</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>215</u>	
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	
TEMPERATURE	TEMP	°C	<u>11.5°C</u>	
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>102</u>	

INSTALLATION ID _____ LOG DATE _____ LOG TIME _____
 LOCATION ID _____ LOT CONTROL NO. _____
 SAMPLE TYPE _____ SAMPLE ID _____ SAMPLE DEPTH (FT.) _____
 SAMPLING PERIOD: START _____ COMPLETE _____
 SAMPLING METHOD _____ LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	_____	_____
SPECIFIC CONDUCTANCE	SC	µmhos/cm	_____	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	°C	_____	_____
ALKALINITY (CaCO ₃)	ALK	mg/l	_____	_____

SAMPLE TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

SURFACE WATER QUALITY SAMPLING RECORD

ELM

INSTALLATION ID 01087 LOG DATE 8/16/88 LOG TIME 1250
 LOCATION ID NS1-4 LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 105 SAMPLE DEPTH (FT.) surface

SAMPLING PERIOD: START 1225 COMPLETE 1235
 SAMPLING METHOD G LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:

DETECTION
LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.17</u>	_____
SPECIFIC CONDUCTANCE	SC	μ mhos/cm	<u>260</u>	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	$^{\circ}$ C	<u>12$^{\circ}$C</u>	_____
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>116</u>	_____

INSTALLATION ID _____ LOG DATE _____ LOG TIME _____
 LOCATION ID _____ LOT CONTROL NO. _____
 SAMPLE TYPE _____ SAMPLE ID _____ SAMPLE DEPTH (FT.) _____

SAMPLING PERIOD: START _____ COMPLETE _____
 SAMPLING METHOD _____ LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:

DETECTION
LIMIT

POTENTIAL OF HYDROGEN	pH	S.U.	_____	_____
SPECIFIC CONDUCTANCE	SC	μ mhos/cm	_____	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	$^{\circ}$ C	_____	_____
ALKALINITY (CaCO ₃)	ALK	mg/l	_____	_____

SAMPLE TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

SURFACE WATER QUALITY SAMPLING RECORD

INSTALLATION ID 0687 ELM LOG DATE 8/20/88 LOG TIME 1105
 LOCATION ID SC-4 LOT CONTROL NO. _____
 SAMPLE TYPE N SAMPLE ID 114-0001R SAMPLE DEPTH (FT.) Surface
 SAMPLING PERIOD: START 1106 COMPLETE 1110
 SAMPLING METHOD G LOGGER CODE SM3
 LAB CODE Rmml DATE SENT 8/20/88
 PRESERVATION METHOD H2O2
 COMMENTS _____

PARAMETER MEASUREMENTS:				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.43</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	<u>162</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	$^{\circ}\text{C}$	<u>11.6</u>	<u>0.1</u>
ALKALINITY (CaCO_3)	ALK	mg/l	<u>50</u>	<u>2</u>

INSTALLATION ID _____ LOG DATE _____ LOG TIME _____
 LOCATION ID _____ LOT CONTROL NO. _____
 SAMPLE TYPE _____ SAMPLE ID _____ SAMPLE DEPTH (FT.) _____
 SAMPLING PERIOD: START _____ COMPLETE _____
 SAMPLING METHOD _____ LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	_____	_____
SPECIFIC CONDUCTANCE	SC	$\mu\text{mhos/cm}$	_____	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	$^{\circ}\text{C}$	_____	_____
ALKALINITY (CaCO_3)	ALK	mg/l	_____	_____

SAMPLE TYPES: (WSACODE)

D - DUPLICATE	FB - FIELD BLANK
R - REPLICATE	TB - TRIP BLANK
S - SPIKE	LB - LAB BLANK
K - KNOWN	N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB	SP - SUBMERSIBLE PUMP
B - BAILER	AL - AIR-LIFT SAMPLER
PP - PERISTALTIC PUMP	BP - BLADDER PUMP
SL - SUCTION LIFT PUMP	

SURFACE WATER QUALITY SAMPLING RECORD

INSTALLATION ID 0687 ELM LOG DATE 8/20/88 LOG TIME 1120
 LOCATION ID SC-5 LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 115-0001R SAMPLE DEPTH (FT.) Surface
 SAMPLING PERIOD: START 1130 COMPLETE 1135
 SAMPLING METHOD G LOGGER CODE SRD
 LAB CODE RWAL DATE SENT 8/20/88
 PRESERVATION METHOD HACO3
 COMMENTS _____

PARAMETER MEASUREMENTS:			DETECTION LIMIT	
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.50</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>97</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>11.5</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>40</u>	<u>1</u>

INSTALLATION ID _____ LOG DATE _____ LOG TIME _____
 LOCATION ID _____ LOT CONTROL NO. _____
 SAMPLE TYPE _____ SAMPLE ID _____ SAMPLE DEPTH (FT.) _____
 SAMPLING PERIOD: START _____ COMPLETE _____
 SAMPLING METHOD _____ LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:			DETECTION LIMIT	
POTENTIAL OF HYDROGEN	pH	S.U.	_____	_____
SPECIFIC CONDUCTANCE	SC	µmhos/cm	_____	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	°C	_____	_____
ALKALINITY (CaCO ₃)	ALK	mg/l	_____	_____

SAMPLE TYPES: (WSACODE)

D - DUPLICATE
 R - REPLICATE
 S - SPIKE
 K - KNOWN
 FB - FIELD BLANK
 TB - TRIP BLANK
 LB - LAB BLANK
 N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB
 B - BAILER
 PP - PERISTALTIC PUMP
 SL - SUCTION LIFT PUMP
 SP - SUBMERSIBLE PUMP
 AL - AIR-LIFT SAMPLER
 BP - BLADDER PUMP

SURFACE WATER QUALITY SAMPLING RECORD

INSTALLATION ID 0687 ELM LOG DATE 8/20/88 LOG TIME 1010
 LOCATION ID SC-6 LOT CONTROL NO. -
 SAMPLE TYPE N SAMPLE ID 116-0001R SAMPLE DEPTH (FT.) Surface
 SAMPLING PERIOD: START 1020 COMPLETE 1025
 SAMPLING METHOD G LOGGER CODE S-13
 LAB CODE RNAL DATE SENT 8/20/88
 PRESERVATION METHOD HNO₃ HCl of H₂SO₄ added by lab
 COMMENTS

PARAMETER MEASUREMENTS:				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	<u>7.43</u>	<u>0.01</u>
SPECIFIC CONDUCTANCE	SC	µmhos/cm	<u>99</u>	<u>1</u>
REDOX POTENTIAL	Eh	mvolts	<u>-</u>	<u>-</u>
TEMPERATURE	TEMP	°C	<u>10.1</u>	<u>0.1</u>
ALKALINITY (CaCO ₃)	ALK	mg/l	<u>98</u>	<u>2</u>

INSTALLATION ID _____ LOG DATE _____ LOG TIME _____
 LOCATION ID _____ LOT CONTROL NO. _____
 SAMPLE TYPE _____ SAMPLE ID _____ SAMPLE DEPTH (FT.) _____
 SAMPLING PERIOD: START _____ COMPLETE _____
 SAMPLING METHOD _____ LOGGER CODE _____
 LAB CODE _____ DATE SENT _____
 PRESERVATION METHOD _____
 COMMENTS _____

PARAMETER MEASUREMENTS:				DETECTION LIMIT
POTENTIAL OF HYDROGEN	pH	S.U.	_____	_____
SPECIFIC CONDUCTANCE	SC	µmhos/cm	_____	_____
REDOX POTENTIAL	Eh	mvolts	_____	_____
TEMPERATURE	TEMP	°C	_____	_____
ALKALINITY (CaCO ₃)	ALK	mg/l	_____	_____

SAMPLE TYPES: (WSACODE)

D - DUPLICATE FB - FIELD BLANK
 R - REPLICATE TB - TRIP BLANK
 S - SPIKE LB - LAB BLANK
 K - KNOWN N - NORMAL

SAMPLE METHODS: (WSMCODE)

G - GRAB SP - SUBMERSIBLE PUMP
 B - BAILER AL - AIR-LIFT SAMPLER
 PP - PERISTALTIC PUMP BP - BLADDER PUMP
 SL - SUCTION LIFT PUMP

IRP STAGE 3 RI/FS

ELMENDORF AFB, AK

APPENDIX E

SURVEYING DATA

**COORDINATE FILES
AND
COMPUTATIONS**

ELMENDORF GEOTECHNICAL SURVEY

September / November 1988

for

BLACK & VEATCH

ENGINEERS - ARCHITECTS



***** COORDINATE FILE SYSTEM *****

FILE REFERENCE LIST:

NAME	TYPE	LENGTH	DESCRIPTION	TIME
046	COORD	1000	ELMENDORF GEOTECHNICAL SURVEY	0 00 00 JOB# 88046

COORDINATE FILE:88046 LENGTH = 1000 POINTS: TIME ON FILE: 0 00 00.0
 ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

DM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ENTER & ASSIGN					
		1		107,953.9100	106,049.2900
		2		113,565.9700	98,688.3800
		3		113,678.1700	99,530.4800
		4		114,844.1500	101,681.2500
		5		110,385.8200	107,194.3400
		6		111,161.3800	107,332.5500
		7		106,514.6100	104,168.7200
		8		107,079.1300	105,466.8500
		9		107,649.9500	106,315.2600
		10		107,916.5600	106,976.2800
		11		108,506.4800	107,909.6200
		12		109,490.5400	108,492.4300
		13		110,177.5800	111,006.7400
		14		110,214.1500	110,892.1100
		15		115,798.9100	106,422.9600
		16		116,244.5300	107,027.7500
		17		115,981.4900	107,997.7600
		18		117,296.2400	109,530.5900
		19		117,986.1200	109,718.8200
		20		118,296.3900	111,050.4700
		21		118,354.5300	111,647.5100
		22		116,314.1700	109,422.5300
		23		116,335.1900	109,787.3500
		24		117,747.3200	104,021.0300
		25		116,458.3400	103,622.4200
		26		109,949.7900	98,988.0600
		27		106,856.1100	119,510.5200
		28		105,990.3800	118,448.2300
		30		110,386.2200	111,835.2000
		31		111,339.3300	111,837.9000
		32		113,017.7800	109,765.8000
		33		113,548.1400	109,261.9500
		34		113,409.1100	111,752.1800
		35		113,491.7700	111,133.5400
		36		113,450.1800	112,125.1000
		37		110,504.1900	100,912.3600
		38		110,210.4800	100,390.3700
		39		109,429.5900	99,584.4800
		40		110,796.7500	105,673.4800
		41		115,753.4400	115,687.9000
		42		116,675.6800	115,881.3500
		43		120,928.4800	114,469.4100
		44		121,907.8400	114,703.9500
		45		122,210.7100	115,188.5000
		46		123,279.6300	116,008.1800 N-
		47		124,041.5900	116,451.6400 N-

49	107,340.9800	117,402.4000
50	110,913.1700	115,564.4500
51	103,408.3500	106,455.3000
52	112,177.4400	106,006.1500
53	111,297.2800	104,837.1900
54	120,602.8400	114,520.7200
55	114,093.9400	101,472.0300
56	109,580.5500	111,502.2200

TIME FOR THIS RUN:
COORDINATES STORED

1 22 48.1; TOTAL TIME ON FILE: 1 22 48.1

COORDINATE FILE: 88046 LENGTH = 1000 POINTS; TIME ON FILE: 1 22 48.1
 MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

POINT	POINT TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
1					107,953.9100	106,049.2900
2					113,565.9700	98,688.3800
3					113,678.1700	99,530.4800
4					114,844.1500	101,681.2500
5					110,385.8200	107,194.3400
6					111,161.3800	107,332.5500
7					106,514.6100	104,168.7200
8					107,079.1300	105,466.8500
9					107,649.9500	106,315.2600
10					107,916.5600	106,976.2800
11					108,506.4800	107,909.6200
12					109,490.5400	108,492.4300
13					110,177.5800	111,006.7400
14					110,214.1500	110,892.1100
15					115,798.9100	106,422.9600
16					116,244.5300	107,027.7500
17					115,981.4900	107,997.7600
18					117,296.2400	109,530.5900
19					117,986.1200	109,718.8200
20					118,296.3900	111,050.4700
21					118,354.5300	111,647.5100
22					116,314.1700	109,422.5300
23					116,335.1900	109,787.3500
24					117,747.3800	104,021.0300
25					116,458.3400	103,622.4200
26					109,949.7900	98,988.0600
27					106,856.1100	119,510.5200
28					105,990.3800	118,448.2300
30					110,386.2200	111,835.2000
31					111,339.3300	111,837.9000
32					113,017.7800	109,765.4800
33					113,548.1400	109,261.9500
34					113,409.1100	111,752.1800
35					113,491.7700	111,133.5400
36					113,450.1800	112,125.1000
37					110,504.1900	100,912.3600
38					110,210.4800	100,390.3700
39					109,429.5900	99,584.4800
40					110,796.7500	105,683.4800
41					115,753.4400	115,687.9000
42					116,675.6800	115,881.3500
43					120,928.4800	114,469.4100
44					121,907.8400	114,703.9500
45					122,210.7100	115,188.5000
46					123,279.6300	116,008.1800 N-
47					124,041.5900	116,451.6400 N-
48					107,345.1300	119,285.2800
49					107,340.9800	117,402.4000
50					110,913.1700	115,664.4500
51					108,408.3500	106,455.8000
52					112,177.4400	106,006.1600
53					111,297.2800	104,837.1900
54					120,602.8400	114,520.7800
55					114,092.8400	101,472.0000

56

109,580.5500

111,509.2200



1	107,853.3100	108,149.1700	149.0000 HW-4
2	113,053.8700	98,539.3300	171.0200 C-11
3	113,579.1700	99,550.4800	207.3500 C-12
4	114,944.1500	101,451.1500	208.0000 C-13
5	110,385.4200	107,194.3400	157.6500 SW-10
6	111,151.3800	107,432.0500	163.2700 SW-11
7	106,514.5100	104,168.7200	136.2300 F-1
8	107,073.1500	105,466.3500	137.1800 F-2
9	107,649.3500	105,515.2500	140.4200 F-3
10	107,316.5600	106,376.2600	139.0600 F-4
11	108,506.1800	107,209.6200	144.8500 F-5
12	109,190.5400	108,492.4300	148.1400 F-6
13	110,177.5200	111,206.7400	175.9900 G-1
14	110,214.1500	110,392.1100	173.0700 G-1A
15	115,798.9100	106,422.9600	175.5100 HS-2
16	116,244.5300	107,027.7500	179.2500 HS-4
17	115,981.4900	107,997.7500	181.3600 HS-7
18	117,296.2400	109,530.5900	192.6150 HS-14
19	117,386.1200	103,718.8200	194.8300 HS-15
20	116,296.3500	111,050.4700	204.3200 HS-19
21	119,354.5300	111,647.5100	207.5200 HS-21
22	116,314.1700	109,422.5300	188.2300 HS-29
23	116,335.1300	109,707.3500	199.0700 HS-30
24	117,747.3800	104,321.3300	255.0100 J-22
25	116,458.3400	103,622.4200	260.3900 J-23
26	109,949.7300	98,388.3600	160.1700 MB-27
27	106,856.1100	119,510.5200	213.6200 MB-116
28	105,990.3800	119,448.2300	205.5800 MB-124
29	110,386.2200	111,835.2000	178.6500 MB-130
31	111,339.3300	111,837.9000	179.7600 MB-131
32	113,017.7000	109,765.4800	177.6000 MB-136
33	113,548.1400	109,261.9500	176.5600 MB-137
34	113,409.1100	111,752.1800	184.6600 MB-141
35	113,491.7700	111,133.5400	183.9500 MB-142
36	113,450.1800	112,125.1000	185.1300 MB-145
37	110,504.1900	100,912.3600	137.2800 MC-9
38	110,210.4800	100,390.3700	136.6800 MC-10
39	109,429.5900	99,584.4800	136.3500 MC-11
40	110,796.7500	105,683.4800	152.1200 MH-23
41	115,753.4400	115,687.9000	217.9700 N-1B
42	116,675.6800	115,381.3500	220.6400 N-2A
43	120,928.4800	114,469.4100	272.0900 N-6
44	121,877.8400	114,703.9500	279.2900 N-8
45	122,218.7100	115,188.5000	275.3800 N-9
46	123,279.6300	116,008.1800	N-11A
47	123,449.5900	116,451.6400	N-12A
48	107,335.1300	119,285.2800	209.8500 O-1
49	107,340.9800	117,402.4000	202.7000 O-2
50	110,913.1700	115,664.4500	196.0200 O-4
51	108,408.3500	106,455.8000	151.3500 PY-20
52	112,177.4400	106,006.1600	154.0600 PY-23
53	111,297.2800	104,837.1900	152.8200 ST-146
54	120,502.8400	114,520.7300	251.2500 UC-2
55	114,023.9400	101,472.0900	210.0200 UC-6A
56	109,580.5500	111,509.2200	135.6400 US-167

RADIAL STAKE OUT - OCC.PT:

BACKSIGHT

0 00 00.0 SW	68 02 03.3	712.761	9	107,916.5600	106,976.2
139 25 18.0 NE	27 27 21.3	675.556	100	107,649.9500	106,315.2
AR 345 47 35.0 SW	53 49 38.3	288.232	201	107,649.9500	106,315.2

DIAL STAKE OUT - OCC.PT:

CKSIGHT

AR 0 00 00.0 SW	27 27 21.3	675.556	10	107,916.5600	106,976.2
346 26 42.0 SW	13 54 03.3	375.891	202	107,916.5600	106,976.2
310 36 21.0 SE	21 56 17.7	229.785	203	108,151.1434	107,197.4
AR 14 06 00.0 SW	41 33 21.3	560.434	204	108,302.8798	107,373.6
AR 39 41 43.0 SW	67 09 04.3	301.938	205	108,096.6475	106,915.9

DIAL STAKE OUT - OCC.PT:

CKSIGHT

AR 0 00 00.0 SW	41 48 48.9	609.726	1	108,408.3500	106,455.8
234 29 21.0 SE	83 41 50.1	267.950	206	107,953.9100	106,049.2
256 12 23.0 SE	61 58 48.1	354.465	207	107,953.9100	106,049.2
AR 274 23 00.0 SE	43 48 11.1	389.917	208	108,378.9340	106,722.1
27 267 20 20.0 SE	50 50 51.1	327.796	209	108,241.8298	106,766.7

DIAL STAKE OUT - OCC.PT:

CKSIGHT

AR 0 00 00.0 NE	41 48 48.9	609.726	51	108,126.9382	106,725.6
59 33 00.0 SE	78 38 11.1	548.479	210	108,201.3845	106,709.9
				107,953.9100	106,049.2
				108,408.3500	106,455.8
				108,408.3500	106,455.8
				107,845.8411	106,587.0

201	107,746.4394	106,743.6072	SP2/65
202	108,151.1434	107,197.4505	SP2/64
203	108,302.8798	107,373.6049	SP2/63
204	108,096.6475	106,915.9915	SP2 10
205	108,398.7822	107,009.5096	SP2/62
206	108,378.9340	106,722.1303	SP2/61
207	108,241.8298	106,768.7158	SP2/69
208	108,126.9382	106,725.6934	SP2/68
209	108,201.3845	106,709.9952	SP2/67
210	107,845.8411	106,587.0165	SP2/66

WARD & ASSIGN
A & ASSIGN

206	108,378.9340	106,722.1303	155.4200 SP2/61
207	108,241.8298	106,768.7158	155.7300 SP2/69
209	108,201.3845	106,709.9952	151.7100 SP2/67
208	108,126.9382	106,725.6934	151.0400 SP2/68
210	107,845.8411	106,587.0165	150.4700 SP2/66
205	108,398.7822	106,915.9915	140.8300 SP2 10
206	108,378.9340	106,722.1303	146.3100 SP2/62
203	108,302.8798	107,373.6049	144.3900 SP2/63
202	108,151.1434	107,197.4505	143.2100 SP2/64
10	107,916.5600	106,976.2800	139.0600 F-4

101	107,746,7314	106,717,1370	109,13400	SP2,65
102	108,101,1464	107,157,1505	110,71100	SP2,61
103	108,302,8798	107,373,5044	111,37900	SP2,63
104	108,096,5475	106,915,9915	110,33300	SP2,10
105	108,598,7822	107,107,5896	110,34000	SP2,62
106	108,373,9340	106,722,1303	109,32700	SP2,61
107	108,241,8299	106,760,7108	109,37000	SP2,61
108	108,105,9382	106,723,6314	109,34500	SP2,64
109	108,201,3845	106,709,3952	109,31000	SP2,67
110	107,845,3411	106,587,0165	109,47000	SP2,66

START	12	INV SW	30 38 10.2	1143.696	11	108,506.4800	107,909.6200
ART	10 <td>INV NE</td> <td>27 27 21.3</td> <td>675.556</td> <td>100</td> <td>108,516.0251</td> <td>107,297.7557 TP</td>	INV NE	27 27 21.3	675.556	100	108,516.0251	107,297.7557 TP
100 TRAV SE	89	11 06.7	621.329	0	108,507.1896	107,909.0216 TP	
0 INV SW	61	43 31.6	1809.678	9	107,649.9500	106,315.2600	
9 INV NE	61	45 15.1	1809.869	11	108,506.4800	107,909.6200	

START	12	INV SW	30 38 10.2	1143.696	11	108,506.4800	107,909.6200
11 S.S. SE	88	46 34.8	680.009	211	108,491.9582	108,589.4741 NS	
11 S.S. SW	27	22 40.2	740.360	212	107,849.0454	107,569.1610 SC	

ORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 1 22 48.1
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
START					
12 INV SW	30 38 10.2	1143.696	11	108,506.4800	107,909.6200
11 S.S. SE	88 46 34.8	680.009	211	108,491.9582	108,589.4741 NS
11 S.S. SW	27 22 40.2	740.360	212	107,849.0454	107,569.1610 SC

TIME FOR THIS RUN: 0 02 00.9; TOTAL TIME ON FILE: 1 24 49.0
ORDINATES STORED

COORDINATE FILE 88046 LENGTH = 1000 POINTS; TIME ON FILE: 1 24 49.0
MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

TWO INSTRUMENT RADIAL SURVEY

ANGLE	SD	ZA	BRG PRISM	PT	NOR
			INST PT:	11	108,506
REF BRG: NE			30 38 10.2*****	EDM SLOPE REDUCTI	

741.780 SLOPE DIST
144.850 ELEV INST PT
4.760 H.I. DIST
4.750 H.I. REFLECTOR
93 32 46 ZENITH
4.760 H.I. THEODOLITE
4.750 H.I. TARGET
98.991 ELEV TARGET PT
740.361 H DIST INST PT
740.356 H DIST SEA LEVEL

PL # 212

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 1 24 49.0
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
-----------	---------	----------	----	----------	---------

ART									
11	INV	NE	30 38 10.2	1143.696	11	108,506.4800	107,909.6200		
12	S.S.	SW	43 26 15.2	382.320	213	109,490.5400	108,492.4300		
12	S.S.	SE	12 42 49.8	302.318	214	109,212.9284	108,229.5609	NS	
12	S.S.	NE	89 58 35.2	655.840	215	109,195.6347	108,558.9647	NS	
12	TRAV	SE	18 00 44.8	761.934	101	108,765.9486	108,728.0381	TP	
101	TRAV	NE	68 23 30.2	886.718	102	109,092.4904	109,552.4402	TP	
02	TRAV	SE	65 47 33.8	457.279	103	108,904.9882	109,969.5100	TP	
03	TRAV	NE	42 33 10.2	669.527	104	109,398.1978	110,422.2905	TP	
104	TRAV	NE	87 06 30.2	416.562	105	109,419.2121	110,838.3225	TP	
05	TRAV	NE	43 23 22.2	251.947	106	109,602.3022	111,011.3987	TP	
06	TRAV	SE	87 28 12.8	498.563	107	109,580.2964	111,509.4761		
107	S.S.	NW	45 17 11.1	0.360	56	109,580.5500	111,509.2200		

07	INV	SW	88 17 45.5	3018.381	12	109,490.5400	108,492.4300
12	INV	NE	88 17 45.5	3018.381	107	109,580.2964	111,509.4761

07	INV	NW	45 17 11.1	0.360	56	109,580.5500	111,509.2200
56	INV	SW	88 17 27.6	3018.132	12	109,490.5400	108,492.4300

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 1 24 49.0
MENDORE GEOTECHNICAL SURVEY ***** JOB #88046

***** ROTATION *****

STATE LINE 12 TO 107 ABOUT 12 FROM NE 88 17 45.5 3018.381
TO NE 88 17 27.6
A ROTATION OF- 0 00 17.9

SCALE 0.9999175

TRANSLATE TO: 12 109,490.5400 108,492.4300

FROM	BEARING	DISTANCE	TO	NORTHING	EASTING
101	NE	68 23 12.3	101	108,766.0288	108,728.0815
02	SE	65 47 52.8	102	109,092.6151	109,552.3872
103	NE	42 32 52.8	103	108,905.1645	109,969.4389
104	NE	87 06 12.3	104	109,398.3727	110,422.1393
05	NE	43 23 04.3	105	109,419.4213	110,838.1352
06	SE	87 28 30.7	106	109,602.5113	111,011.1812
107	SE	87 28 30.7	107	109,580.5505	111,509.2194

TIME FOR THIS RUN: 0 02 23.0

TOTAL TIME ON FILE: 1 27 11.9

ORDINATES STORED

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 1 27 11.9
MENDORE GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
START			107	109,580.5505	111,509.2194

107	INV SE	47 38 44.9	0.001	56	109,580.5500	111.509.2200
START				12	109,490.5400	108,492.4300
12	INV SE	18 01 02.7	761.871	101	108,766.0288	108,728.0815 TP
START				12	109,490.5400	108,492.4300
12	INV SE	18 01 02.7	761.871	101	108,766.0288	108,728.0815 TP
01	S.S. SW	20 43 27.3	723.531	216	108,089.3144	108,472.0451 SC
START				101	108,766.0288	108,728.0815 TP
101	INV NE	68 23 12.3	386.645	102	109,092.6151	109,552.3672 TP
02	INV SE	65 47 51.7	457.241	103	108,905.1645	109,369.4389 TP
03	S.S. NW	65 45 11.7	95.086	217	108,944.2132	109,382.7410 NS
103	S.S. NE	53 27 53.3	632.201	218	109,281.5244	110,477.4071 SC
103	INV NE	42 32 52.3	669.471	104	109,398.3727	110,422.1393 TP
04	S.S. NE	32 49 52.3	76.468	219	109,462.6262	110,463.5974 NS
104	S.S. NE	78 21 46.3	303.681	220	109,459.6290	110,719.5777 SP
104	INV NE	87 06 12.3	416.528	105	109,419.4213	110,838.1352 TP
05	INV NE	43 23 04.3	251.926	106	109,602.5113	111,011.1812 TP
106	INV SE	87 28 30.5	498.523	56	109,580.5500	111,509.2200
56	S.S. NW	47 38 44.9	0.001	107	109,580.5505	111,509.2194
56	S.S. NE	17 45 22.5	130.250	221	109,704.5952	111,548.9421 SP

ME FOR THIS RUN: 0 11 09.4; TOTAL TIME ON FILE: 1 38 21.3
 COORDINATES STORED

DATE: 10/10/84 LENGTH = 1000 POINTS; TIME ON FILE: 1 38 21.3
 LOGOFF: 10/10/84 SURVEY: ***** JOB 888046

***** JOB *****
 FROM TYPE BEARING DISTANCE TO NORTHING EASTING

201	107,746.4334	106,743.6072	138.5400 SP2/65
202	108,151.1434	107,197.4505	143.2100 SP2/64
203	108,302.8798	107,373.6049	144.3900 SP2/63
204	108,096.6495	106,315.3915	140.8300 SP2 10
205	108,398.7822	107,009.5096	146.9100 SP2/62
206	108,379.9340	106,722.1303	155.4200 SP2/61
207	108,241.8298	106,768.7158	155.7300 SP2/69
208	108,126.9382	106,725.6934	151.0400 SP2/68
209	108,201.3845	106,709.9952	151.7100 SP2/67
210	107,845.8411	106,587.0165	150.4700 SP2/66
211	108,491.9582	108,589.4741	NS3-3
212	107,849.0454	107,569.1610	SC-6
213	109,212.9284	108,329.5609	NS3-4
214	109,195.6347	108,558.9647	NS3-5
215	109,190.8097	109,148.2696	NS3-6
216	108,089.3144	108,472.0451	SC-5
217	108,944.2132	109,382.7410	NS3-2
218	109,281.5244	110,477.4071	SC-4
219	109,462.6262	110,463.5974	NS3-1
220	109,459.6290	110,719.5777	SP4-2

ME FOR THIS RUN: 0 00 45.6; TOTAL TIME ON FILE: 1 39 06.9
 COORDINATES STORED

COORDINATE FILE:88045 LENGTH = 1000 POINTS; TIME ON FILE: 1 39 06.9
 WIMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

CM TIME	BEARING	DISTANCE	TO	NORTHING	EASTING
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ENTER & ASSIGN

221	109,704.5952	111,548.9421
220	109,459.6290	110,719.5777
219	109,462.6262	110,463.5974
218	109,281.5244	110,477.4071
217	108,944.2132	109,882.7410
211	108,491.9582	108,589.4741
216	108,089.3144	108,472.0451
215	109,490.8097	109,148.2696
214	109,195.6347	108,558.9647
213	109,212.9284	108,229.5609

201	107,746.4394	106,741.6072	138.5400 SP2/65
202	108,151.8434	107,137.4505	143.2100 SP2/64
203	108,502.0798	107,373.6049	144.3900 SP2/63
204	108,856.6475	106,915.8915	146.5300 SP2/62
205	108,398.7822	107,009.5096	146.9100 SP2/62
206	108,378.9340	106,722.1303	155.4200 SP2/61
207	108,241.8298	106,758.7158	155.7300 SP2/69
208	108,125.3382	106,725.6334	151.0400 SP2/66
209	108,201.3845	106,709.9952	151.7100 SP2/67
210	107,845.8411	106,537.0165	150.4700 SP2/66
211	108,491.9582	108,589.4741	111.9200 NS3-3
212	107,849.0454	107,569.1610	SC-5
213	109,212.9284	108,229.5609	149.2500 NS3-4
214	109,195.6347	108,558.9647	136.8400 NS3-5
215	109,490.8097	109,148.2696	149.8300 NS3-6
216	108,089.3144	108,472.0451	104.0400 SC-5
217	108,944.2132	109,882.7410	121.1300 NS3-2
218	109,281.5244	110,477.4071	121.1100 SC-4
219	109,462.6262	110,463.5974	126.1800 NS3-1
220	109,459.6290	110,719.5777	151.2700 SP4-2
221	109,704.5952	111,548.9421	137.3600 SP4-1

212	107,849.0454	107,569.1610	98.8900 SC-6
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10-1-88

START					13	110,177.5300	111,006.7400	
13 INV NW	72	18	21.4	120,322	14	110,214.1500	110,892.1100	
14 TRAV SW	67	21	47.6	374,477	222	110,070.0183	110,546.4813	SP
ENTER & ASSIGN					222	110,070.0183	110,546.4813	

ART					31	111,339.3300	111,337.9000	
31 INV SW	0	09	44.3	953.114	30	110,386.2200	111,335.2000	
30 S.S. NW	6	54	02.7	935.609	223	111,315.0516	111,722.7867	SP
30 S.S. NW	26	58	56.7	222.353	224	110,584.3686	111,734.3148	SP
ENTER & ASSIGN					224	110,584.3686	111,734.3148	
					223	111,315.0516	111,722.7867	

ART					34	113,409.1100	111,752.1800	
34 INV NE	83	42	55.1	375.175	36	113,450.1800	112,125.1000	
36 S.S. NW	77	37	59.9	89.188	225	113,469.2812	112,037.9810	SP
36 S.S. NE	10	27	55.1	6.100	226	113,456.1785	112,126.2080	SP

TER & ASSIGN					226	113,456.1785	112,126.2080	
					225	113,469.2812	112,037.9810	SP
					225	113,469.2812	112,037.9810	

START					34	113,409.1100	111,752.1800	
34 INV NW	82	23	22.1	624.138	35	113,491.7700	111,133.5400	
35 S.S. NW	64	02	43.1	487.800	227	113,705.2608	110,694.9393	SP
35 TRAV NW	82	23	22.1	20.370	108	113,494.4678	111,113.3494	PT
38 TRAV NW	24	30	42.1	590.610	228	114,031.8497	110,868.3180	SP
ENTER & ASSIGN					227	113,705.2608	110,694.9393	
					228	114,031.8497	110,868.3180	

106,743.6072	136,5400 SP2/65
107,197.4505	143,2100 SP2/64
107,373.6049	144,3900 SP2/63
106,315.9915	140,8300 SP2 10
107,009.5096	146,9100 SP2/62
106,722.1303	155,4200 SP2/61
106,768.7158	155,7300 SP2/60
106,725.6934	151,0400 SP2/68
106,709.9952	151,7100 SP2/67
106,587.0165	150,4700 SP2/66
108,589.4741	111,3200 NS3-3
107,569.1510	98,9900 SC-6
108,229.5609	149,2500 NS3-4
108,558.9647	136,8400 NS3-5
109,148.2696	149,0300 NS3-6
109,472.0451	104,0400 SC-5
109,592.7410	121,1200 NS3-2
110,477.4071	121,1100 SC-4

220	109,459.3336	110,713.5777	131.2700 SP4-2
221	109,704.3952	111,540.9421	137.3600 SP4-1
222	110,070.0183	112,546.4813	173.6700 SP4-3
223	111,315.0516	111,722.7867	181.9900 SP14-1
224	110,584.3686	111,734.3148	181.2600 SP14-2
225	113,469.2812	112,037.3810	185.3100 SP13-1
226	113,456.1785	112,126.2080	185.4900 SP13-2
227	113,705.2608	110,694.9393	185.0300 SP15-1
228	114,031.3497	110,868.3180	184.5000 SP15-2

201	107,746.4694	106,743.6032	138.5900 SP2/65
202	109,151.1434	107,137.4526	143.2100 SP2/64
203	108,502.8778	107,373.6049	144.2900 SP2/63
204	103,046.6475	106,915.2815	148.8300 SP2/60
205	109,398.7822	107,009.5096	148.9100 SP2/62
206	108,378.9340	106,422.1903	155.4200 SP2/61
207	108,241.3258	106,768.7153	155.7300 SP2/69
208	106,135.9382	106,725.6954	151.0400 SP2/68
209	108,201.3845	106,709.8952	151.7100 SP2/67
210	107,945.9411	106,587.0165	150.4700 SP2/66
211	108,191.9582	108,589.4741	111.9200 NS3-3
212	107,849.0454	107,569.1610	98.5900 SC-6
213	109,212.9284	108,229.5689	149.2500 NS3-4
214	109,195.6347	108,559.3647	136.8100 NS3-5
215	109,490.8097	109,148.1556	149.0300 NS3-6
216	108,989.3144	108,472.1461	104.2400 SC-5
217	108,944.2132	107,882.7410	121.1300 NS3-2
218	109,281.5244	110,477.4071	121.1100 SC-4
219	109,462.6262	110,463.5974	126.1800 NS3-1
220	109,459.3336	110,713.5777	131.2700 SP4-2
221	109,704.3952	111,540.9421	137.3600 SP4-1
222	110,070.0183	112,546.4813	173.6700 SP4-3
223	111,315.0516	111,722.7867	181.9900 SP14-1
224	110,584.3686	111,734.3148	181.2600 SP14-2
225	113,469.2812	112,037.3810	185.3100 SP13-1
226	113,456.1785	112,126.2080	185.4900 SP13-2
227	113,705.2608	110,694.9393	185.0300 SP15-1
228	114,031.3497	110,868.3180	184.5000 SP15-2

START								
55	TRAV NW	90 00 00.0	705.520	109	114,093.9400	101,472.0900		
09	TRAV NE	8 38 29.0	288.263	110	114,378.9305	100,809.8817	PT	
110	TRAV NE	49 05 04.0	741.152	111	114,864.3449	101,369.9521	PT	
111	TRAV NE	35 34 12.0	112.297	112	114,873.0188	101,481.9134	CL	
12	INV SW	0 43 20.6	779.141	55	114,093.9400	101,472.0900		
55	INV NE	15 34 42.9	778.822	4	114,844.1500	101,681.2500		

TIME FOR THIS RUN: 0 52 55.0; TOTAL TIME ON FILE: 2 32 01.9
COORDINATES STORED

ORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 2 32 01.9
MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** ROTATION *****

ROTATE LINE 55 TO 112 ABOUT 55 FROM NE 0 43 20.6 779.141
TO NE 15 34 42.9
A ROTATION OF 14 51 22.3

SCALE 0.9995906

TRANSLATE TO: 55 114,093.9400 101,472.0900

FROM	BEARING	DISTANCE	TO	NORTHING	EASTING
			109	114,274.7567	100,790.4333
09 NE	23 29 51.3	288.145	110	114,539.0076	100,905.3196
110 NE	63 56 26.3	740.848	111	114,864.4641	101,570.8528
111 SE	79 34 25.7	112.251	112	114,844.1502	101,681.2502

TIME FOR THIS RUN: 0 01 43.3

TOTAL TIME ON FILE: 2 33 45.2

COORDINATES STORED

ORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 2 33 45.2
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
START			4	114,844.1500	101,681.2500
4 INV NE	45 00 00.0	0.000	112	114,844.1502	101,681.2502 CL
START			55	114,093.9400	101,472.0900
55 INV NW	75 00 00.0	705.231	109	114,274.7567	100,790.4333 PT
109 S.S. SE	3 25 42.7	58.265	229	114,216.5957	100,793.9178 SP
109 S.S. SW	64 14 30.3	159.611	230	114,205.3938	100,646.6820 SP
109 S.S. SE	85 16 27.7	433.532	231	114,239.0405	101,222.4914 SP
109 S.S. SW	10 03 20.3	62.602	232	114,213.1166	100,779.5028 TR
109 S.S. SW	73 20 01.3	362.692	233	114,170.7374	100,442.9771 SP
109 S.S. SE	89 39 21.7	298.821	234	114,272.9628	101,089.2490 SP
109 S.S. SE	76 32 29.7	155.423	235	114,238.5836	100,941.5885 SP
109 S.S. SE	9 17 09.7	110.484	236	114,165.7207	100,808.2614 TR
109 INV NE	23 29 51.3	288.145	110	114,539.0076	100,905.3196 PT
110 S.S. NE	57 22 23.3	359.967	237	114,733.0894	101,208.4833 SP
110 S.S. SW	21 14 43.3	266.613	238	114,290.5141	100,808.7089 SP
110 S.S. SE	76 49 15.7	155.262	239	114,503.6089	101,056.4923 SP
110 S.S. SW	84 31 29.3	4.550	240	114,538.5735	100,900.7903 SP
110 S.S. SW	87 59 42.3	310.166	241	114,528.1563	100,595.3437 SP
110 S.S. SW	88 41 44.3	129.269	242	114,536.0650	100,776.0842 SP

562.203 H DIST SEA LEVEL

559.580 SLOPE DIST
277.430 ELEV INST PT
4.860 H.I. DM
25.210 H.I. REFLECTOR
92 14 05 ZENITH
4.360 H.I. THEODOLITE
25.210 H.I. TARGET
235.267 ELEV TARGET PT
559.155 H DIST INST PT
559.147 H DIST SEA LEVEL

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 7 24 33.6
MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ENTER & ASSIGN					
			236	114,165.7207	100,808.2614
			245	114,467.9319	100,450.7002
			246	114,516.5847	100,343.5566
			247	114,766.1173	100,394.3647

1	107,953.3100	106,949.2900	148,3600 RD-5
2	113,565.3700	98,688.3900	171.8200 C-11
3	113,678.1700	99,530.4900	207.3000 C-12
4	114,544.1500	101,681.0500	305.0000 C-15
5	110,385.8200	107,194.3400	157.6300 ERF-10
6	111,161.3900	107,332.5500	163.2700 ERF-11
7	106,514.5100	104,168.7200	136.2200 F-1
8	107,879.1200	105,466.8500	137.2800 F-2
9	107,649.9500	106,315.2500	148.4200 F-3
10	107,916.5600	106,976.2900	139.0600 F-4
11	108,505.4800	107,909.6200	144.8500 F-5
12	109,490.5400	108,492.4300	148.1400 F-6
13	110,177.5800	111,006.7400	175.9800 G-1
14	110,214.1500	110,892.1100	173.0700 G-1A
15	115,798.9100	106,422.9600	175.5100 HS-2
16	116,244.5300	107,027.7500	179.2600 HS-4
17	115,981.4900	107,997.7600	181.3600 HS-7
18	117,296.2400	109,530.5900	192.6100 HS-14
19	117,986.1200	109,718.8200	194.8300 HS-15
20	118,296.3900	111,850.4700	204.8200 HS-19
21	118,354.5300	111,647.5100	207.5200 HS-21
22	116,314.1700	109,422.5300	188.2800 HS-29
23	116,335.1900	109,787.3500	189.0700 HS-30
24	117,747.3800	104,021.0300	255.0100 J-22
25	116,458.3400	103,622.4200	260.3900 J-23
26	109,949.7900	98,988.0600	160.1700 MB-27
27	106,856.1100	119,510.5200	213.6200 MB-116
28	105,990.5800	118,448.2300	205.5800 MB-124
29	110,286.2200	111,835.2000	178.6500 MB-130
30	111,339.3300	111,837.9000	179.7600 MB-131
31	113,017.7800	109,765.4800	177.6000 MB-136
32	113,548.1400	109,261.9500	176.5600 MB-137
33	113,909.1100	111,752.1800	184.6600 MB-141
34	113,491.7700	111,133.5400	183.8500 MB-142
35	113,450.1800	112,125.1000	185.1300 MB-145
36	110,504.1900	100,912.3600	137.2800 MC-9
37	110,210.4800	130,390.3700	136.6800 MC-10
38	109,429.5300	99,584.4800	136.3500 MC-11

4	113,753.4400	113,087.0000	113,087.0000
42	113,570.0000	113,570.0000	113,570.0000
43	113,570.0000	113,570.0000	113,570.0000
44	113,570.0000	113,570.0000	113,570.0000
45	113,570.0000	113,570.0000	113,570.0000
46	113,570.0000	113,570.0000	113,570.0000
47	113,570.0000	113,570.0000	113,570.0000
48	113,570.0000	113,570.0000	113,570.0000
49	113,570.0000	113,570.0000	113,570.0000
50	113,570.0000	113,570.0000	113,570.0000
51	113,570.0000	113,570.0000	113,570.0000
52	113,570.0000	113,570.0000	113,570.0000
53	113,570.0000	113,570.0000	113,570.0000
54	113,570.0000	113,570.0000	113,570.0000
55	113,570.0000	113,570.0000	113,570.0000
56	113,570.0000	113,570.0000	113,570.0000
100	108,515.0251	107,287.7557	TP#1
101	108,756.0288	108,728.0915	TP#2
102	109,092.6151	109,552.3672	TP#3
103	108,985.1645	109,969.4393	TP#4
104	109,398.3727	110,422.1393	TP#5
105	109,419.4213	110,838.1352	TP#6
106	109,602.5113	111,911.1812	TP#7
107	109,560.5505	111,509.2194	
108	113,494.4676	111,113.3494	PT A
109	114,274.7567	100,790.4333	266.1200 PT 2
110	114,539.0076	100,995.3196	277.4300 PT 8-1
111	114,864.4641	101,570.8528	PT 8-2
112	114,844.1502	101,681.2502	CLOSE
113	114,970.8099	100,901.7377	8-1A
201	107,746.4594	106,743.6072	138.5400 SP2/65
202	108,151.1434	107,197.4505	145.2100 SP2/64
203	108,302.8798	107,373.6049	144.3300 SP2/63
204	108,096.6475	106,915.9915	140.8300 SP2 10
205	108,398.7822	107,009.5096	146.9100 SP2/62
206	108,378.9340	106,722.1303	155.4200 SP2/61
207	108,241.8298	106,768.7158	155.7300 SP2/69
208	108,126.9382	106,725.6934	151.3400 SP2/58
209	108,291.3845	106,709.9952	151.7100 SP2/67
210	107,845.8411	106,587.0165	150.4700 SP2/66
211	108,491.9582	108,589.4741	111.3200 NS3-3
212	107,649.0454	107,569.1610	98.9900 SC-5
213	109,212.9284	108,229.5609	149.2500 NS3-4
214	109,195.6347	108,558.9647	136.8400 NS3-5
215	109,490.8892	109,148.2696	149.0300 NS3-6
216	108,089.3144	108,472.0451	104.0400 SC-5
217	108,944.2132	109,882.7410	121.1300 NS3-2
218	109,702.5244	110,477.4071	121.1100 SC-4
219	108,562.6282	110,463.5974	126.1900 NS3-1
220	108,922.6280	110,719.5777	131.2700 SP4-2
221	109,707.5952	111,548.9421	137.3600 SP4-1
222	110,070.0183	110,546.4813	173.5700 SP4-3
223	111,315.0516	111,722.7867	181.9400 SP14-1
224	110,584.3686	111,734.3148	181.2600 SP14-2
225	113,469.2812	112,037.9810	185.3100 SP13-1
226	113,456.1785	112,126.2080	185.4900 SP13-2
227	113,705.2608	110,694.9393	185.0300 SP15-1
228	114,031.8497	110,968.3180	184.5900 SP15-2
229	114,216.5957	100,793.9178	253.7700 SP5816
230	114,285.3938	100,646.6820	252.9800 SP5815
231	114,239.0405	101,222.4914	236.6800 SP5819
232	114,213.1186	100,779.5029	251.9000 TRENCH
233	114,170.7374	100,442.9771	242.5600 SP5814
234	114,272.9628	101,089.2490	243.0000 SP5818
235	114,238.5836	100,941.5885	241.2100 SP5817

137	114,733.0834	101,008.4463	166.0000 SP5-5
138	114,826.3141	100,406.7025	166.0000 SP5-7
139	114,893.6083	101,306.1913	166.0000 SP5-9
140	114,938.3735	100,490.7903	170.0000 SP5-1
141	114,973.1465	100,395.3437	165.0000 SP5-2
142	114,998.0650	100,776.0941	171.0000 SP5-4
143	114,983.2782	100,605.9049	161.0000 SP5-6
144	114,940.2542	100,847.1979	166.0000 SP5-4
145	114,467.9319	100,450.7001	162.0000 SP5-11
146	114,516.5847	100,343.5566	165.0000 SP5-12
147	114,766.1173	100,394.2647	165.0000 SP5-13
148	114,959.2434	100,668.9990	235.0000 SP5-10
149	114,969.3632	100,360.7454	219.0000 SP5-20
150	114,965.1112	100,797.5799	249.0000 SP5-8

LINE	TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
START				2	113,565.9700	98,688.3800
2	INV NE	82 24 38.5	849.542	3	113,678.1700	99,530.4800
3	TRAV NW	90 00 00.0	552.962	114	113,678.1700	98,977.5184 TF
114	TRAV SW	77 23 35.0	297.479	115	113,613.2419	98,687.2120 TP
115	TRAV NW	5 14 57.0	69.481	116	113,682.4312	98,680.8554 CL
116	INV SE	89 42 45.5	849.635	3	113,678.1700	99,530.4800
3	INV SW	82 24 38.5	849.542	2	113,565.9700	98,688.3800

TIME FOR THIS RUN: 0 20 35.9; TOTAL TIME ON FILE: 7 45 09.5

COORDINATES STORED

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 7 45 09.5
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** ROTATION *****

ROTATE LINE 3 TO 116 ABOUT 3 FROM NW 89 42 45.5 849.635
TO SW 82 24 38.5
A ROTATION OF- 7 52 36.0

SCALE 0.9998905

ANSLATE TO: 3 113,678.1700 99,530.4800

FROM	BEARING	DISTANCE	TO	NORTHING	EASTING
114 SW	69 30 59.0	297.446	115	113,602.3998	98,982.7953
115 NW	13 07 33.0	69.473	116	113,498.3118	98,704.1562
				113,565.9698	98,688.3795

TIME FOR THIS RUN: 0 02 06.0

TOTAL TIME ON FILE: 7 47 15.5

COORDINATES STORED

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 7 47 15.5
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
START			116	113,565.9698	98,688.3795 CL
116 INV NE	65 13 18.4	0.001	2	113,565.9700	98,688.3800
2 INV NE	82 24 38.5	849.542	3	113,678.1700	99,530.4800
3 INV SW	82 07 24.0	552.901	114	113,602.3998	98,982.7953 TP
114 TRAV NW	40 52 57.0	165.251	251	113,727.3387	98,874.6367 D1
251 TRAV NW	3 03 22.0	139.709	252	113,866.8490	98,867.1883 D1
TER & ASSIGN			251	113,727.3387	98,874.6367
			252	113,866.8490	98,867.1883

251	113,727.3387	98,874.6367	188.9900 015-01
252	113,866.8490	98,867.1883	187.4100 015-02

START
 26 INV SE 48 54 17.7 791.407 26 109,949.7900 98,938.0600
 39 TRAV SW 58 55 31.3 572.368 39 109,429.5900 99,584.4800
 117 TRAV SE 21 54 28.7 116.201 117 109,134.1596 99,094.2492 TF
 TIME FOR THIS RUN: 0 17 34.7; TOTAL TIME ON FILE: 8 04 50.2

ORDINATES STORED

***** EDM SLOPE REDUCTION *****

790.830 SLOPE DIST
 136.350 ELEV INST PT
 3.970 H.I. DM
 5.400 H.I. REFLECTOR
 88 10 24 ZENITH
 3.970 H.I. THEODOLITE
 5.400 H.I. TARGET
 160.141 ELEV TARGET PT
 790.427 H DIST INST PT
 790.422 H DIST SEA LEVEL

572.390 SLOPE DIST
 136.350 ELEV INST PT
 3.970 H.I. DM
 4.550 H.I. REFLECTOR
 90 30 08 ZENITH
 3.970 H.I. THEODOLITE
 4.550 H.I. TARGET
 130.760 ELEV TARGET PT
 572.368 H DIST INST PT
 572.364 H DIST SEA LEVEL

117.610 SLOPE DIST
 130.760 ELEV INST PT
 4.870 H.I. DM
 10.720 H.I. REFLECTOR
 98 52 38 ZENITH
 4.870 H.I. THEODOLITE
 10.720 H.I. TARGET
 106.761 ELEV TARGET PT
 116.201 H DIST INST PT
 116.201 H DIST SEA LEVEL

ORDINATE FILE: 88046 LENGTH: 1000 POINTS; TIME ON FILE: 8 04 50.2
 LMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
TER & ASSIGN					
			117	109,134.1596	99,094.2492
			253	109,026.3500	99,137.6058

253 109,026.3500 99,137.6058 106.7600 NSI-4

START
 08 INV NE 60 38 04.9 598.948 38 110,210.4800 100,390.3700
 37 TRAV NE 77 23 34.9 265.330 118 110,504.1900 100,912.3600
 113 TRAV SE 12 42 40.1 123.684 254 110,562.1014 101,171.2926 *N
 TIME FOR THIS RUN: 0 08 22.2; TOTAL TIME ON FILE: 8 13 12.4

ORDINATES STORED

**** EDM SLOPE REDUCTION ****

 265.330 SLOPE DIST
 137.230 ELEV INST PT
 4.990 H.I. DM
 4.710 H.I. REFLECTOR
 89 54 23 ZENITH
 4.990 H.I. THEODOLITE
 4.710 H.I. TARGET
 137.995 ELEV TARGET PT
 265.330 H DIST INST PT
 265.328 H DIST SEA LEVEL

124.080 SLOPE DIST
 138.000 ELEV INST PT
 5.000 H.I. DM
 4.550 H.I. REFLECTOR
 94 34 47 ZENITH
 5.000 H.I. THEODOLITE
 4.550 H.I. TARGET
 128.543 ELEV TARGET PT
 123.684 H DIST INST PT
 123.683 H DIST SEA LEVEL

COORDINATE FILE: 88046 LENGTH = 1000 POINTS; TIME ON FILE: 8 13 12.4
 MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

POINT TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ENTER & ASSIGN					
			118	110,562.1014	101,171.2926
			254	110,441.4488	101,198.5075

110,441.4488 101,198.5075 128.5400 MC-3
 110,504.1900 100,912.3600 137.2900 MC-9
 110,210.4800 100,390.3700 136.6800 MC-10

START
 38 INV NE 60 38 04.9 598.948 37 110,213.4800 100,390.3700
 37 TRAV NE 24 26 39.9 803.973 119 110,504.1900 100,912.3600
 119 TRAV NE 46 05 32.9 489.876 255 111,236.0978 101,245.0524 #B
 255 TRAV NE 37 00 40.9 775.168 256 111,575.8249 101,597.9883 BH
 ME FOR THIS RUN: 0 17 03.6; TOTAL TIME ON FILE: 8 30 16.0

COORDINATES STORED

***** EDM SLOPE REDUCTION *****

775.180 SLOPE DIST
 145.740 ELEV INST PT
 2.530 H.I. DM
 10.720 H.I. REFLECTOR
 89 41 15 ZENITH
 2.530 H.I. THEODOLITE
 10.720 H.I. TARGET
 141.790 ELEV TARGET PT
 775.168 H DIST INST PT
 775.163 H DIST SEA LEVEL

COORDINATE FILE: 88046 LENGTH = 1000 POINTS; TIME ON FILE: 8 30 16.0
 MENDORE GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ENTER & ASSIGN					
			255	111,575.8249	101,597.9883
			256	112,194.8095	102,064.6190 NS
			256	112,194.8095	102,064.6190
255	111,575.8249	101,597.9883	145.3800 BH-6		
256	112,194.8095	102,064.6190	141.7900 NS1-2		

40	110,796.7500	105,683.4800	110,796.7500
41	115,053.4400	108,607.4000	117,8700 N-17
42	116,675.6200	119,461.1500	121,1400 N-22
43	120,920.4800	119,469.1100	120,0500 N-6
44	121,307.8400	119,703.1500	120,0500 N-6
45	122,210.7100	119,189.5000	125,0500 N-9
46	123,279.6200	116,008.1800	N-11.5
47	124,041.5900	116,451.6400	N-12.5
48	127,545.1100	113,365.2800	109,8500 S-1
49	127,840.8600	117,402.4500	102,7000 S-2
50	110,913.1700	115,964.4500	106,0200 S-4
51	108,408.5500	106,455.0000	151.3500 RY-20
52	112,177.4400	106,936.1500	154.0600 RY-23
53	111,297.2800	104,937.1900	150.8000 RY-146

ART					52	112,177.4400	106,006.1600
52	INV	SW	13 09 16.0	1417.895	40	110,796.7500	105,683.4800
40	S.S.	NW	41 40 43.0	1119.509	START		
52	INV	SW	13 09 16.0	1417.895	40	110,796.7500	105,683.4800
40	TRAV	NW	41 40 43.0	1119.509	259	111,632.8960	104,939.0609
259	TRAV	SW	16 53 33.0	350.715	121	111,297.3136	104,837.1511
21	INV	SE	59 23 51.7	983.278	40	110,796.7500	105,683.4800
40	INV	NW	59 23 53.6	983.228	53	111,297.2800	104,837.1900

TIME FOR THIS RUN: 0 26 04.3; TOTAL TIME ON FILE: 8 56 20.4
COORDINATES STORED

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 8 56 20.4
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** ROTATION *****

DATE LINE 40 TO 121 ABOUT 40 FROM NW 59 23 51.7 983.278
TO NW 59 23 53.6
A ROTATION OF- 0 00 01.9

SCALE 0.99999492

ANSULATE TO: 40 110,796.7500 105,683.4800

FROM	BEARING	DISTANCE	TO	NORTHING	EASTING
			259	111,632.8466	104,939.0910
			121	111,297.2803	104,837.1895

TIME FOR THIS RUN: 0 27 39.0
TOTAL TIME ON FILE: 8 57 59.4
COORDINATES STORED

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 8 57 59.4
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ART			40	110,796.7500	105,683.4800
40	INV NW	41 40 44.9	1119.452	259	111,632.8466
59	INV SW	16 53 31.1	350.697	121	111,297.2803
21	INV SE	63 12 46.3	0.001	53	111,297.2800

ART				52	112,177.4400	106,006.1600	
52 INV SW	13 09 16.0	1417.395	40	110,796.7500	105,683.4800		
40 TRAV SE	11 36 31.0	624.908	260	110,184.6243	105,809.2272	IS	
60 INV NW	11 36 31.0	624.908	40	110,796.7500	105,683.4800		
40 INV NE	13 09 16.0	1417.895	52	112,177.4400	106,006.1600		
52 S.S. SW	55 25 29.0	381.095	261	111,961.1733	105,692.3739	D1	
52 S.S. NW	65 43 18.0	540.553	262	112,399.6988	105,513.4145	D1	
ART			40	110,796.7500	105,683.4800		
40 INV NW	41 40 44.9	1119.452	259	111,632.3466	104,939.0910	D1	
259 S.S. SE	68 28 57.9	509.519	263	111,445.9647	105,413.0998	D1	
59 S.S. SW	71 57 29.1	605.465	264	111,445.3265	104,363.3970	D1	
59 S.S. NW	68 01 41.9	1151.110	265	112,063.5326	103,871.5875	D1	
259 TRAV SW	74 10 44.1	1582.369	122	111,201.4384	103,416.6654	4N	
22 TRAV NE	14 34 14.1	113.948	266	111,311.7218	103,445.3317	NS	
ART			259	111,632.3466	104,939.0910	D1	
259 INV SW	16 53 30.8	350.697	53	111,297.2800	104,837.1900		
53 S.S. SW	21 52 08.8	615.221	267	110,726.3324	104,608.0282	S6	
53 S.S. SW	25 28 01.8	651.186	268	110,709.3688	104,557.1843	S6	
53 S.S. SW	17 04 54.8	583.978	269	110,739.0641	104,665.6536	S6	
53 S.S. SW	27 39 55.8	615.939	270	110,751.7589	104,551.2040	S6	
53 S.S. SW	23 59 39.8	579.504	271	110,767.8535	104,601.5364	S6	
53 S.S. SW	20 00 55.8	640.802	272	110,695.1820	104,617.8599	S6	

TIME FOR THIS RUN: 0 27 54.9; TOTAL TIME ON FILE: 9 25 54.3

COORDINATES STORED

*** EDM SLOPE REDUCTION *****

1417.920 SLOPE DIST
 152.120 ELEV INST PT
 4.770 H.I. DM
 4.960 H.I. REFLECTOR
 89 55 16 ZENITH
 4.770 H.I. THEODOLITE
 4.960 H.I. TARGET
 153.924 ELEV TARGET PT
 1417.918 H DIST INST PT
 1417.908 H DIST SEA LEVEL

1119.510 SLOPE DIST
 152.120 ELEV INST PT
 4.770 H.I. DM
 4.370 H.I. REFLECTOR
 90 04 52 ZENITH
 4.770 H.I. THEODOLITE
 4.370 H.I. TARGET
 150.961 ELEV TARGET PT
 1119.509 H DIST INST PT
 1119.501 H DIST SEA LEVEL

624.910 SLOPE DIST
 152.120 ELEV INST PT
 4.770 H.I. DM
 0.210 H.I. REFLECTOR
 90 08 22 ZENITH
 4.770 H.I. THEODOLITE
 0.210 H.I. TARGET
 155.167 ELEV TARGET PT
 624.908 H DIST INST PT
 624.904 H DIST SEA LEVEL

381.110 SLOPE DIST
 154.060 ELEV INST PT
 5.110 H.I. DM
 0.210 H.I. REFLECTOR
 90 31 13 ZENITH

0.210 H.I. TARGET
155.502 ELEV TARGET PT
331.094 H DIST INST PT
331.091 H DIST SEA LEVEL

540.560 SLOPE DIST
154.060 ELEV INST PT
5.110 H.I. DM
0.200 H.I. REFLECTOR
90 13 03 ZENITH
5.110 H.I. THEODOLITE
0.200 H.I. TARGET
156.138 ELEV TARGET PT
540.552 H DIST INST PT
540.549 H DIST SEA LEVEL

350.720 SLOPE DIST
150.960 ELEV INST PT
4.680 H.I. DM
4.740 H.I. REFLECTOR
89 42 04 ZENITH
4.680 H.I. THEODOLITE
4.740 H.I. TARGET
152.732 ELEV TARGET PT
350.715 H DIST INST PT
350.713 H DIST SEA LEVEL

350.720 SLOPE DIST
152.820 ELEV INST PT
4.740 H.I. DM
4.680 H.I. REFLECTOR
90 17 56 ZENITH
4.740 H.I. THEODOLITE
4.680 H.I. TARGET
151.053 ELEV TARGET PT
350.715 H DIST INST PT
350.713 H DIST SEA LEVEL

1119.530 SLOPE DIST
151.050 ELEV INST PT
4.680 H.I. DM
4.630 H.I. REFLECTOR
89 57 01 ZENITH
4.680 H.I. THEODOLITE
4.630 H.I. TARGET
152.097 ELEV TARGET PT
1119.529 H DIST INST PT
1119.521 H DIST SEA LEVEL

509.520 SLOPE DIST
151.050 ELEV INST PT
4.680 H.I. DM
2.770 H.I. REFLECTOR
89 52 04 ZENITH
4.680 H.I. THEODOLITE
2.770 H.I. TARGET

309.519 H DIST INST PT
309.515 H DIST SEA LEVEL

350.720 SLOPE DIST
151.050 ELEV INST PT
4.680 H.I. DM
4.740 H.I. REFLECTOR
89 42 04 ZENITH
4.680 H.I. THEODOLITE
4.740 H.I. TARGET
152.322 ELEV TARGET PT
350.715 H DIST INST PT
350.713 H DIST SEA LEVEL

605.470 SLOPE DIST
151.050 ELEV INST PT
4.680 H.I. DM
4.500 H.I. REFLECTOR
90 14 38 ZENITH
4.680 H.I. THEODOLITE
4.500 H.I. TARGET
148.660 ELEV TARGET PT
605.464 H DIST INST PT
605.460 H DIST SEA LEVEL

1151.110 SLOPE DIST
151.050 ELEV INST PT
4.680 H.I. DM
3.900 H.I. REFLECTOR
90 01 22 ZENITH
4.680 H.I. THEODOLITE
3.900 H.I. TARGET
151.400 ELEV TARGET PT
1151.110 H DIST INST PT
1151.101 H DIST SEA LEVEL

1582.380 SLOPE DIST
151.050 ELEV INST PT
4.680 H.I. DM
4.530 H.I. REFLECTOR
90 12 40 ZENITH
4.680 H.I. THEODOLITE
4.530 H.I. TARGET
145.421 ELEV TARGET PT
1582.369 H DIST INST PT
1582.358 H DIST SEA LEVEL

1582.370 SLOPE DIST
145.420 ELEV INST PT
4.840 H.I. DM
4.530 H.I. REFLECTOR
89 49 03 ZENITH
4.840 H.I. THEODOLITE
4.530 H.I. TARGET
150.822 ELEV TARGET PT
1582.361 H DIST INST PT
1582.350 H DIST SEA LEVEL

113.980 SLOPE DIST
145.420 ELEV INST PT
4.840 H.I. DM
8.200 H.I. REFLECTOR
91 21 13 ZENITH
4.840 H.I. THEODOLITE
8.200 H.I. TARGET

113.948 H DIST INST PT
113.947 H DIST SEA LEVEL

615.280 SLOPE DIST
152.820 ELEV INST PT
4.960 H.I. DM
4.430 H.I. REFLECTOR
90 47 48 ZENITH
4.960 H.I. THEODOLITE
4.430 H.I. TARGET
144.803 ELEV TARGET PT
615.221 H DIST INST PT
615.216 H DIST SEA LEVEL

651.260 SLOPE DIST
152.820 ELEV INST PT
4.960 H.I. DM
3.200 H.I. REFLECTOR
90 51 57 ZENITH
4.960 H.I. THEODOLITE
3.200 H.I. TARGET
144.748 ELEV TARGET PT
651.186 H DIST INST PT
651.181 H DIST SEA LEVEL

584.040 SLOPE DIST
152.820 ELEV INST PT
4.960 H.I. DM
4.640 H.I. REFLECTOR
90 50 17 ZENITH
4.960 H.I. THEODOLITE
4.640 H.I. TARGET
144.605 ELEV TARGET PT
583.978 H DIST INST PT
583.973 H DIST SEA LEVEL

615.980 SLOPE DIST
152.820 ELEV INST PT
4.960 H.I. DM
5.100 H.I. REFLECTOR
90 39 30 ZENITH
4.960 H.I. THEODOLITE
5.100 H.I. TARGET
145.610 ELEV TARGET PT
615.939 H DIST INST PT
615.935 H DIST SEA LEVEL

579.610 SLOPE DIST
152.820 ELEV INST PT
4.960 H.I. DM
0.200 H.I. REFLECTOR
91 05 43 ZENITH
4.960 H.I. THEODOLITE
0.200 H.I. TARGET
146.508 ELEV TARGET PT
579.504 H DIST INST PT
579.500 H DIST SEA LEVEL

640.870 SLOPE DIST
152.820 ELEV INST PT
4.960 H.I. DM
4.300 H.I. REFLECTOR
90 49 56 ZENITH
4.960 H.I. THEODOLITE
4.300 H.I. TARGET

144.100 ELEV ADJUST PT
640.803 H DIST INST PT
640.798 H DIST SEA LEVEL

COORDINATE FILE: 88046 LENGTH = 1000 POINTS; TIME ON FILE. 8 23 54.
MEMORANDUM GEOTECHNICAL SURVEY ***** JOB 88046

***** COGO *****

POINT	BEARING	DISTANCE	TO	NORTHING	EASTING
-------	---------	----------	----	----------	---------

ENTER & ASSIGN

259	111.632.8466	104,939.0910
260	110,184.6243	105,809.2272
261	111,961.1733	105,692.3739
262	112,399.6988	105,513.4145
263	111,445.9647	105,413.0998
264	111,445.3265	104,363.3970
265	112,063.5326	103,871.5875
122	111,201.4384	103,416.6654

ENTER & ASSIGN

266	111,311.7218	103,445.3317
267	110,726.3324	104,608.0282
268	110,709.3688	104,557.1843
269	110,739.0641	104,665.6536
270	110,751.7589	104,551.2040
271	110,767.8535	104,601.5364
272	110,695.1820	104,617.8599
260	110,184.6243	105,809.2272
53	111,297.2800	104,837.1900
267	110,726.3324	104,608.0282

PART

53 INV SW 21 52 08.8

615.221

259	111.632.8466	104,939.0910	151.0500 D17-4
260	110.184.6243	105,809.2272	154.5300 S5-8
261	111,961.1733	105,692.3739	155.5000 D17-2
262	112,399.6988	105,513.4145	156.1400 D17-3
263	111,445.9647	105,413.0998	154.1400 D17-1
264	111,445.3265	104,363.3970	148.5600 D17-5
265	112,063.5326	103,871.5875	151.9000 D17-6
266	111,311.7218	103,445.3317	139.3700 WS1-1
267	110,726.3324	104,608.0282	144.8000 S6-1
268	110,709.3688	104,557.1843	144.7500 S6-2
269	110,739.0641	104,665.6536	144.6100 S6-3
270	110,751.7589	104,551.2040	145.6100 S6-4
271	110,767.8535	104,601.5364	146.5100 S6-5
272	110,695.1820	104,617.8599	144.1800 S6-6

5 INV NE 10 06 15.9 110,385.8200 107,194.3400 157.6300 EAF-10
 6 TRAV SW 27 03 36.9 787.779 6 111,161.3800 107,332.5500
 TIME FOR THIS RUN: 0 15 06.3; TOTAL TIME ON FILE: 9 41 00.5

COORDINATES STORED

***** EDM SLOPE REDUCTION *****

787.780 SLOPE DIST
 163.270 ELEV INST PT
 4.980 H.I. DM
 0.210 H.I. REFLECTOR
 90 45 33 ZENITH
 4.980 H.I. THEODOLITE
 0.210 H.I. TARGET
 157.615 ELEV TARGET PT
 787.711 H DIST INST PT
 787.705 H DIST SEA LEVEL

581.010 SLOPE DIST
 163.270 ELEV INST PT
 4.980 H.I. DM
 4.100 H.I. REFLECTOR
 90 37 49 ZENITH
 4.980 H.I. THEODOLITE
 4.100 H.I. TARGET
 157.766 ELEV TARGET PT
 580.975 H DIST INST PT
 580.970 H DIST SEA LEVEL

COORDINATE FILE: 88046 LENGTH = 1000 POINTS; TIME ON FILE: 9 41 00.5
 MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
TER & ASSIGN			273	110,644.0058	107,068.2490

TER & ASSIGN

273 110,644.0058 107,068.2490 157.7700 NORTH

	41	115,753.4400	115,687.9000	117,9700 N-15
	42	116,675.6800	115,881.3500	117,9700 N-28
11597	41	115,753.4400	115,687.9000	117,9700 N-15
11597 INV NE 11 50 48.0	942.311 42	116,675.6800	115,881.3500	117,9700 N-28

ART				41	115,753.4400	115,687.9000
41 INV NE	11 50 48.0	942.311	42	116,675.6800	115,881.3500	
42 TRAV NW	25 28 24.0	684.425	123	117,293.5693	115,586.9848	#I
23 S.S. SE	86 02 54.0	80.368	274	117,288.0307	115,667.1622	IS
23 S.S. NW	14 16 58.0	439.899	275	117,719.8713	115,478.4582	IS

ENTER & ASSIGN

			274	117,288.0307	115,667.1622
			275	117,719.8713	115,478.4582
274	117,288.0307	115,667.1622	215.0000	IS-5	
275	117,719.8713	115,478.4582	215.7000	IS-6	

				43	120,928.4800	114,469.4100
	43	120,928.4800	114,469.4100	202.7700 AC--		
	54	120,602.8400	114,520.7800	191.0500 AC-1		
START				43	120,928.4800	114,469.4100
43 INV SE	8 57 52.5	329.667	54	120,602.8400	114,520.7800	
54 S.S. NW	57 16 28.5	39.680	276	120,624.2915	114,487.3984	BH
ENTER & ASSIGN						
				276	120,624.2915	114,487.3984
	276	120,624.2915	114,487.3984	249.0000 BH-2		

46 123,279.6300 116,008.1800 N-1A
 47 124,041.5900 116,451.6400 N-1B

START					47	124,041.5900	116,451.6400	N-
47 INV SW	30	11	57.7	881.612	46	123,279.6300	116,008.1800	N-
46 S.S. SW	61	49	30.7	45.277	277	123,258.2518	115,968.2678	D1
46 TRAV SW	48	45	47.7	236.960	278	123,123.4326	115,829.9879	D1
START					46	123,279.6300	116,008.1800	N-
46 INV SW	48	45	47.7	236.960	278	123,123.4326	115,829.9879	D1
278 S.S. NW	80	31	39.3	72.860	279	123,135.4234	115,758.1214	D1
278 S.S. SW	85	20	02.7	250.547	280	123,103.0517	115,580.2713	D1
TER & ASSIGN								

277 123,258.2518 115,968.2678 D15-3
 278 123,123.4326 115,829.9879 D15-1
 279 123,135.4234 115,758.1214 D15-2
 280 123,103.0517 115,580.2713 D15-4

ME FOR THIS RUN: 1 57 41.0; TOTAL TIME ON FILE: 11 38 41.5

ORDINATES STORED

***** EDM SLOPE REDUCTION *****

397.320 SLOPE DIST
275.380 ELEV INST PT
4.220 H.I. DM
5.020 H.I. REFLECTOR
91 01 45 ZENITH
4.220 H.I. THEODOLITE
5.020 H.I. TARGET
267.447 ELEV TARGET PT
397.256 H DIST INST PT
397.251 H DIST SEA LEVEL

466.580 SLOPE DIST
267.447 ELEV INST PT
5.160 H.I. DM
4.670 H.I. REFLECTOR
89 31 07 ZENITH
5.160 H.I. THEODOLITE
4.670 H.I. TARGET
271.862 ELEV TARGET PT
466.563 H DIST INST PT
466.557 H DIST SEA LEVEL

698.100 SLOPE DIST
271.862 ELEV INST PT
4.960 H.I. DM
4.850 H.I. REFLECTOR
88 21 40 ZENITH
4.960 H.I. THEODOLITE
4.850 H.I. TARGET
291.948 ELEV TARGET PT
697.814 H DIST INST PT
697.805 H DIST SEA LEVEL

2264.760 SLOPE DIST
291.948 ELEV INST PT
5.150 H.I. DM
4.800 H.I. REFLECTOR
89 03 54 ZENITH
5.150 H.I. THEODOLITE
4.800 H.I. TARGET
329.360 ELEV TARGET PT
2264.454 H DIST INST PT
2264.423 H DIST SEA LEVEL

609.710 SLOPE DIST
329.360 ELEV INST PT
5.100 H.I. DM
4.750 H.I. REFLECTOR
91 18 13 ZENITH
5.100 H.I. THEODOLITE
4.750 H.I. TARGET
315.847 ELEV TARGET PT
609.552 H DIST INST PT
609.543 H DIST SEA LEVEL

11.760 SLOPE DIST
315.847 ELEV INST PT

5.070 H.I. DM
0.210 H.I. REFLECTOR
101 21 53 ZENITH
5.070 H.I. THEODOLITE
0.210 H.I. TARGET
318.389 ELEV TARGET PT
11.529 H DIST INST PT
11.529 H DIST SEA LEVEL



11.760 SLOPE DIST
318.630 ELEV INST PT
0.210 H.I. DM
5.070 H.I. REFLECTOR
78 38 02 ZENITH
0.210 H.I. THEODOLITE
5.070 H.I. TARGET
316.088 ELEV TARGET PT
11.529 H DIST INST PT
11.529 H DIST SEA LEVEL

609.710 SLOPE DIST
316.088 ELEV INST PT
5.070 H.I. DM
4.940 H.I. REFLECTOR
88 44 51 ZENITH
5.070 H.I. THEODOLITE
4.940 H.I. TARGET
329.553 ELEV TARGET PT
609.564 H DIST INST PT
609.555 H DIST SEA LEVEL

2264.770 SLOPE DIST
329.553 ELEV INST PT
5.100 H.I. DM
5.000 H.I. REFLECTOR
90 57 35 ZENITH
5.100 H.I. THEODOLITE
5.000 H.I. TARGET
291.825 ELEV TARGET PT
2264.456 H DIST INST PT
2264.420 H DIST SEA LEVEL

698.120 SLOPE DIST
291.825 ELEV INST PT
5.150 H.I. DM
4.830 H.I. REFLECTOR
91 40 59 ZENITH
5.150 H.I. THEODOLITE
4.830 H.I. TARGET
271.651 ELEV TARGET PT
697.819 H DIST INST PT
697.810 H DIST SEA LEVEL

466.600 SLOPE DIST
271.651 ELEV INST PT
4.960 H.I. DM
5.010 H.I. REFLECTOR
90 32 41 ZENITH
4.960 H.I. THEODOLITE
5.010 H.I. TARGET
267.169 ELEV TARGET PT
466.579 H DIST INST PT
466.573 H DIST SEA LEVEL

397.330 SLOPE DIST
267.169 ELEV INST PT
5.160 H.I. DM
4.060 H.I. REFLECTOR
89 01 09 ZENITH
5.160 H.I. THEODOLITE

4.060 H.I. TARGET
275.074 ELEV TARGET PT
397.272 H DIST INST PT
397.266 H DIST SEA LEVEL

ORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 11 38 41.5
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ART			44	121,907.8400	114,703.9500
44 INV NE	57 59 32.6	571.418	45	122,210.7100	115,188.5000

ENTER & ASSIGN

TIME FOR THIS RUN: 0 03 02.4; TOTAL TIME ON FILE: 11 41 43.9
COORDINATES STORED

ORDINATE FILE 88046 LENGTH = 1000 POINTS; TIME ON FILE: 11 41 43.9
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

NEW FIELD DATA FILE: BH-3 CREATED; LENGTH =10 LEGS
SCR:HORZ TIE TO TEST WELL BH-3

***** FIELD TRAVERSE *****

LEG FROM	ANGLE BEARING	S.DIST H.DIST	ZENITH V.DIST	H.I. H.T.	TO
SW	57 59 32.6 REF BRG				45 122.
1 45	AR 357 20 02.0	397.320	91 01 45.0		
	SW 55 19 34.6	397.256			124 121.
2 124	AR 236 48 27.0	466.580	89 31 07.0		
	NW 67 51 58.4	466.564			125 122.
3 125	AR 147 15 31.0	698.100	88 21 40.0		
	SW 79 23 32.6	697.814			126 122.
4 126	AR 182 22 03.0	2264.760	89 03 54.0		
	SW 81 45 35.6	2264.458			127 121.
5 127	AR 173 54 29.0	609.710	91 18 13.0		
	SW 75 40 04.6	609.552			128 121.
6 128	AR 87 10 35.0	11.760	101 21 58.0		
	SE 17 09 20.4	11.529			281 121.
					CLOSING PT: 122.
NE	0 00 00.0 REF BRG				
	162 50 35.6 ANG ERROR				
	0 00 00.6 ANG BALANCE				

HORIZONTAL CLOSURE

NE 81 09 09.4
4,324.4914 CLOSING LINE
4,447.1739 DIST TRAV
1.0284 PRECISION

TEMPORARY DATA SAVED

TIME FOR THIS RUN: 0 09 52.3; TOTAL TIME ON FILE: 11 51 36.2

COORDINATES STORED

ORDINATE FILE 88046 LENGTH = 1000 POINTS; TIME ON FILE: 11 51 36.2
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

OLD FIELD DATA FILE: BR-3

ANGLE TRAVERSE RESTARTED

162 50 39.6 ANG ERROR

LEG FROM	ANGLE BEARING	S.DIST H.DIST	ZENITH V.DIST	H.I.	H.T.	TO
SW	57 59 32.6 REF BRG					45 122.
1 45	AR 357 20 02.0					
	SW 55 19 34.6	397.256				124 121.
2 124	AR 236 48 27.0					
	NW 67 51 58.4	466.564				125 122.
3 125	AR 147 15 31.0					
	SW 79 23 32.6	697.814				126 122.
4 126	AR 182 22 03.0					
	SW 81 45 35.6	2264.458				127 121.
5 127	AR 173 54 29.0					
	SW 75 40 04.6	609.552				128 121.
6 128	AR 87 10 35.0					
	SE 17 09 20.4	11.529				281 121.
						CLOSING PT: 122.
NE	0 00 00.0 REF BRG					
	162 50 39.6 ANG ERROR					
	0 00 00.0 ANG BALANCE					

HORIZONTAL CLOSURE

NE 81 09 09.4
4,324.4914 CLOSING LINE
4,447.1739 DIST TRAV
1.0284 PRECISION

NO ADJUSTMENT

LEG FROM	ANGLE BEARING	S.DIST H.DIST	ZENITH V.DIST	H.I.	H.T.	TO
						45 122.
1 45	SW 55 19 34.6	397.256				124 121.
2 124	NW 67 51 58.4	466.564				125 122.
3 125	SW 79 23 32.6	697.814				126 122.
4 126	SW 81 45 35.6	2264.458				127 121.
5 127	SW 75 40 04.6	609.552				128 121.
6 128	SE 17 09 20.4	11.529				281 121.

AREA 222940729.85 SF 5118.0149 ACRES

ME FOR THIS RUN: 0 02 03.7; TOTAL TIME ON FILE: 11 53 40.0

COORDINATES STORED

ORDINATE FILE: 88046 LENGTH = 1000 POINTS; TIME ON FILE: 11 53 40.0
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
TER & ASSIGN			281	121,545.5906	110,915.4634

***** COGO *****

281 121,545.5906 110,915.4634 218.2700 84-3

EDM SLOPE REDUCTION

ST WELL BH-4

START 24 INV SW 17 10 59.5 1349.264 25 117.747.3800 104.321.0300
124 116.458.3400 103.622.4200
TIME FOR THIS RUN: 0 14 04.2; TOTAL TIME ON FILE: 12 07 44.2

COORDINATES STORED

ORDINATE FILE 88046 LENGTH = 1000 POINTS; TIME ON FILE: 12 07 44.2
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

W FIELD DATA FILE: BH-4 CREATED; LENGTH =10 LEGS
SCR:TIE TO TEST WELL BH-4

***** FIELD TRAVERSE *****

LEG FROM	ANGLE BEARING	S.DIST H.DIST	ZENITH V.DIST	H.I.	H.T.	TO
NA	25 00 00.0	REF BRG				25 116.

ORDINATE FILE 88046 LENGTH = 1000 POINTS; TIME ON FILE: 12 07 44.2
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

D FIELD DATA FILE: BH-4

***** FIELD TRAVERSE *****

LEG FROM	ANGLE BEARING	S.DIST H.DIST	ZENITH V.DIST	H.I.	H.T.	TO
NE	17 10 59.2	REF BRG				25 116.

1 25 AR 25 36 06.0
ORDINATE FILE 88046 LENGTH = 1000 POINTS; TIME ON FILE: 12 07 44.2
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

D FIELD DATA FILE: BH-4

***** FIELD TRAVERSE *****

LEG FROM	ANGLE BEARING	S.DIST H.DIST	ZENITH V.DIST	H.I.	H.T.	TO
NE	17 10 59.2	REF BRG				25 116.
1 25	AR 25 36 06.0	302.620	91 20 50.0			129 116.
2 129	AR 42 47 05.2	302.536	86 45 23.0			130 116.
3 130	AR 234 01 49.0	665.220	89 48 16.0			131 116.
4 131	AR 83 11 05.8	664.154	88 26 10.0			132 116.
5 132	AR 171 05 44.0	420.140	90 52 04.0			282 117.
	NE 87 54 38.2	420.138				
	NE 45 59 06.2	486.230				
	NE 45 59 06.2	486.049				
	NE 139 24 41.0	529.260				
	NE 5 23 47.2	529.199				

TEMPORARY DATA SAVED

TIME FOR THIS RUN: 0 07 32.5; TOTAL TIME ON FILE: 12 15 16.6

COORDINATES STORED

***** EDM SLOPE REDUCTION *****

302.520 SLOPE DIST
260.990 ELEV INST PT
4.290 H.I. DM
5.000 H.I. REFLECTOR
91 20 50 ZENITH
4.290 H.I. THEODOLITE
5.000 H.I. TARGET
253.167 ELEV TARGET PT
302.536 H DIST INST PT
302.533 H DIST SEA LEVEL

665.220 SLOPE DIST
253.167 ELEV INST PT
5.130 H.I. DM
4.720 H.I. REFLECTOR
86 45 23 ZENITH
5.130 H.I. THEODOLITE
4.720 H.I. TARGET
291.225 ELEV TARGET PT
664.153 H DIST INST PT
664.145 H DIST SEA LEVEL

420.140 SLOPE DIST
291.225 ELEV INST PT
5.030 H.I. DM
4.750 H.I. REFLECTOR
89 48 16 ZENITH
5.030 H.I. THEODOLITE
4.750 H.I. TARGET
292.943 ELEV TARGET PT
420.137 H DIST INST PT
420.132 H DIST SEA LEVEL

486.230 SLOPE DIST
292.943 ELEV INST PT
5.060 H.I. DM
4.850 H.I. REFLECTOR
88 26 10 ZENITH
5.060 H.I. THEODOLITE
4.850 H.I. TARGET
306.428 ELEV TARGET PT
486.048 H DIST INST PT
486.042 H DIST SEA LEVEL

529.260 SLOPE DIST
306.428 ELEV INST PT
5.150 H.I. DM
0.210 H.I. REFLECTOR
90 52 04 ZENITH
5.150 H.I. THEODOLITE
0.210 H.I. TARGET
303.358 ELEV TARGET PT
529.199 H DIST INST PT
529.192 H DIST SEA LEVEL

529.260 SLOPE DIST
303.358 ELEV INST PT
0.210 H.I. DM
5.150 H.I. REFLECTOR
89 07 56 ZENITH
0.210 H.I. THEODOLITE

5.150 H.I. TARGET
306.439 ELEV TARGET PT
529.199 H DIST INST PT
529.191 H DIST SEA LEVEL

486.240 SLOPE DIST
306.439 ELEV INST PT
5.150 H.I. DM
4.910 H.I. REFLECTOR
91 37 36 ZENITH
5.150 H.I. THEODOLITE
4.910 H.I. TARGET
292.881 ELEV TARGET PT
486.044 H DIST INST PT
486.037 H DIST SEA LEVEL

420.160 SLOPE DIST
292.881 ELEV INST PT
5.060 H.I. DM
4.880 H.I. REFLECTOR
90 15 59 ZENITH
5.060 H.I. THEODOLITE
4.880 H.I. TARGET
291.111 ELEV TARGET PT
420.155 H DIST INST PT
420.150 H DIST SEA LEVEL

665.240 SLOPE DIST
291.111 ELEV INST PT
5.030 H.I. DM
4.980 H.I. REFLECTOR
93 17 31 ZENITH
5.030 H.I. THEODOLITE
4.980 H.I. TARGET
252.970 ELEV TARGET PT
664.143 H DIST INST PT
664.134 H DIST SEA LEVEL

302.590 SLOPE DIST
252.970 ELEV INST PT
5.130 H.I. DM
4.140 H.I. REFLECTOR
88 43 17 ZENITH
5.130 H.I. THEODOLITE
4.140 H.I. TARGET
260.714 ELEV TARGET PT
302.514 H DIST INST PT
302.511 H DIST SEA LEVEL

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 12 15 16.6
MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

OM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ENTER & ASSIGN					
		282		117,481.4633	105,306.5522
282	117,481.4633	105,306.5522	503.1300 RM--		

ART				TEST WELL BH-5				
ART								
24	INV SW	17	10	59.5	1349.264	24	117,747.3800	104,021.0300
25	TRAV SE	9	12	14.5	188.105	25	116,458.3400	103,622.4200
33	TRAV NW	71	11	59.5	567.308	133	116,272.6565	103,652.5076 #B
134	TRAV NW	47	33	51.3	106.119	134	116,455.4817	103,115.4662 #B
ENTER & ASSIGN						283	116,527.0865	103,037.1469 BH
						283	116,527.0865	103,037.1469
						283	116,527.0865	103,037.1469

START

PUMP TESTS

42	113,017.7800	109,765.4800	177.6000 MB-16
43	113,548.1400	109,261.9500	176.5000 MB-157
ART			32
32 INV NW	43 30 48.5	731.317	33
33 S.S. SW	79 37 07.5	647.273	284
ART			32
32 INV NW	43 30 48.5	731.317	33
33 S.S. SW	78 55 36.5	659.974	285
33 S.S. SW	76 19 45.5	716.535	286
TER & ASSIGN			
			286
			285
			284
285	113,378.7933	108,565.7148	176.1700 PT-4
286	113,421.3835	108,614.2633	176.5000 PT-3
294	113,431.5031	108,625.2722	176.6000 PT-1

2 AND NS2 SITES

50 110,913.1700 115,664.4500 115,664.4500
 41 115,753.4400 115,687.9000 117,900.4-18

START
 50 TRAV NE 0 00 00.0 1267.037 135 110,913.1700 115,664.4500
 135 TRAV NW 5 47 08.0 3577.977 136 112,180.2067 115,664.4500 #D
 136 INV SE 4 16 24.5 4840.245 50 115,739.9583 115,303.7703 CL
 50 INV NE 0 16 39.3 4840.327 41 110,913.1700 115,664.4500
 115,753.4400 115,687.9000

TIME FOR THIS RUN: 1 52 56.7; TOTAL TIME ON FILE: 14 08 13.3
 COORDINATES STORED

ORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 14 08 13.3
 ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** ROTATION *****

ROTATE LINE 50 TO 136 ABOUT 50 FROM NW 4 16 24.5 4840.245
 TO NE 0 16 39.3
 A ROTATION OF- 355 26 56.2

SCALE 1.0000169

ANSLATE TO: 50 110,913.1700 115,664.4500

FROM	BEARING	DISTANCE	TO	NORTHING	EASTING
135 NW	1 14 04.2	3578.038	136	112,176.2332	115,764.9875
				115,753.4405	115,687.9001

TIME FOR THIS RUN: 0 01 38.5
 TOTAL TIME ON FILE: 14 09 51.8
 COORDINATES STORED

ORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 14 09 51.8
 ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ART			50	110,913.1700	115,664.4500
50 INV NE	4 33 03.8	1267.058	135	112,176.2332	115,764.9875 #D
135 INV NW	1 14 04.2	3578.038	136	115,753.4405	115,687.9001 CL
136 INV SW	5 15 39.7	0.001	41	115,753.4400	115,687.9000
41 INV SW	0 16 39.3	4840.327	50	110,913.1700	115,664.4500
50 INV NE	4 33 03.8	1267.058	135	112,176.2332	115,764.9875 #D
135 S.S. SE	59 28 00.2	434.379	287	111,955.5518	116,139.1333 D1
35 S.S. NE	49 44 24.8	731.343	288	112,648.8668	116,323.0915 D1
135 S.S. SE	81 13 48.2	1032.077	289	112,018.8753	116,784.9980 D1
135 TRAV NE	12 45 55.8	683.580	137	112,842.9166	115,916.0320 #D
37 TRAV SE	86 01 06.2	463.771	138	112,810.7142	116,378.6839 #D
38 S.S. NE	7 54 56.8	78.378	290	112,888.3449	116,389.4778 NS
138 TRAV NE	73 03 15.8	782.277	139	113,038.7198	117,126.9959 #D
39 S.S. NW	22 46 20.2	166.779	291	113,192.4986	117,062.4407 NS
39 S.S. SE	73 34 14.2	283.855	292	112,958.4362	117,399.2606 D1

TIME FOR THIS RUN: 0 12 28.7; TOTAL TIME ON FILE: 14 22 20.5
 COORDINATES STORED

***** EDM SLOPE REDUCTION *****

1032.300 SLOPE DIST
 203.910 ELEV INST PT
 5.110 H.I. DM
 25.210 H.I. REFLECTOR
 38 48 32 ZENITH
 5.110 H.I. THEODOLITE
 25.210 H.I. TARGET
 205.291 ELEV TARGET PT
 1032.076 H DIST INST PT
 1032.066 H DIST SEA LEVEL

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 14 22 20.5
 MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

DM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ENTER & ASSIGN					
			289	112,018.8753	116,784.9980
			287	111,955.5518	116,139.1333
			288	112,648.8668	116,323.0915
			290	112,888.3449	116,389.4778
			291	113,192.4986	117,062.4407
			292	112,958.4362	117,399.2606
287	111,955.5518	116,139.1333	297.6300 013-3		
288	112,648.8668	116,323.0915	210.9600 013-2		
289	112,018.8753	116,784.9980	205.2900 013-4		
290	112,888.3449	116,389.4778	210.7600 NS2-2		
291	113,192.4986	117,062.4407	211.3400 NS2-1		
292	112,958.4362	117,399.2606	214.8500 013-1		

SITE

106,855.1100 118,510.5200 017 590 MB-116
105,990.3800 119,510.5200 025 000 MB-124

TIME FOR THIS RUN: 00 08 18.7; TOTAL TIME ON FILE: 15 04 04.6

ORDINATE FILE 88046 LENGTH = 1000 POINTS; TIME ON FILE: 15 04 04.6
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

W FIELD DATA FILE: D3 CREATED; LENGTH =10 LEGS
SCR:TRAV MB-116 TO MB-124

***** FIELD TRAVERSE *****

LEG FROM	ANGLE BEARING	S.DIST H.DIST	ZENITH V.DIST	H.I.	H.T.	TO
NW	90 00 00.0	REF BRG				
1 27	AR 0 00 00.0	116.750	90 25 27.0			27 106.
	NW 90 00 00.0	116.747				140 106.
2 140	AR 165 20 14.0	354.640	90 56 56.0			
	SW 75 20 14.0	354.591				141 106.
3 141	AR 176 40 07.0	308.480	90 04 11.0			
	SW 72 00 21.0	308.480				142 106.
4 142	AR 179 59 54.0	199.730	90 29 53.0			
	SW 72 00 15.0	199.722				143 106.
5 143	AR 175 23 32.0	230.650	90 43 18.0			
	SW 67 23 47.0	230.632				144 106.
6 144	AR 204 05 13.0	237.770	90 14 11.0			
	NW 88 31 00.0	237.768				145 106.
7 145	AR 62 08 28.0	227.130	90 11 32.0			
	SE 26 22 32.0	227.129				146 106.
8 146	AR 133 30 28.0	36.500	92 25 58.0			
	SE 72 52 04.0	36.467				147 106.

TEMPORARY DATA SAVED

TIME FOR THIS RUN: 00 08 18.7; TOTAL TIME ON FILE: 15 12 23.3

COORDINATES STORED

ORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 15 12 23.3
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ART			147	106,312.6365	118,252.5341 CL
147 INV NE	66 38 05.1	1370.362	27	106,856.1100	119,510.5200
27 INV SW	50 49 16.1	1370.383	28	105,990.3800	118,448.2300

TIME FOR THIS RUN: 00 01 13.9; TOTAL TIME ON FILE: 15 13 37.2

COORDINATES STORED

ORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 15 13 37.2
ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** ROTATION *****

DATE LINE 27 TO 147 ABOUT 27 FROM SW 66 38 05.1 1370.362
TO SW 50 49 16.1
A ROTATION OF- 15 48 49.0

SCALE 1.0000000

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 15 13 37.2
MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** ROTATION *****

DATE LINE 27 TO 147 ABOUT 27 FROM SW 66 38 05.1 1370.362
TO SW 50 49 16.1
A ROTATION OF- 15 48 49.0

SCALE 1.0000153

ANSLATE TO: 27 106,856.1100 119,510.5200

FROM	BEARING	DISTANCE	TO	NORTHING	EASTING
			140	106,824.2950	119,398.1900
140 SW	59 31 25.0	354.597	141	106,644.4494	119,092.5849
141 SW	56 11 32.0	308.484	142	106,472.8061	118,836.2623
142 SW	56 11 26.0	199.726	143	106,361.6723	118,670.3119
143 SW	51 34 58.0	230.635	144	106,218.3594	118,489.6076
144 SW	75 40 11.0	237.772	145	106,159.5083	118,259.2342
145 SE	42 11 21.0	227.132	146	105,991.2189	118,411.7718
146 SE	88 40 53.0	36.468	147	105,990.3797	118,448.2298

TIME FOR THIS RUN: 0 01 52.4

TOTAL TIME ON FILE: 15 15 29.6

COORDINATES STORED

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 15 15 29.6
MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ART			147	105,990.3797	118,448.2298 CL
147 INV NE	32 50 53.3	0.000	28	105,990.3800	118,448.2300
START			140	106,824.2950	119,398.1900 #D
140 INV NE	74 11 11.0	116.749	27	106,856.1100	119,510.5200
27 S.S. SE	26 10 59.0	225.075	293	106,654.1306	119,609.8320 D3
27 INV SW	74 11 11.0	116.749	140	106,824.2950	119,398.1900 #D
140 INV SW	59 31 25.0	354.597	141	106,644.4494	119,092.5849 #D
141 INV SW	56 11 32.0	308.484	142	106,472.8061	118,836.2623 #D
142 S.S. NW	76 07 45.0	64.417	294	106,488.2490	118,773.7239 D3
142 INV SW	56 11 26.0	199.726	143	106,361.6723	118,670.3119 #D
143 INV SW	51 34 58.0	230.635	144	106,218.3594	118,489.6076 #D
144 INV SW	75 40 11.0	237.772	145	106,159.5083	118,259.2342 #D
145 INV SE	42 11 21.0	227.132	146	105,991.2189	118,411.7718 #D
146 S.S. SE	27 04 00.0	47.615	295	105,948.8183	118,433.4381 D3
146 INV SE	88 40 54.9	36.468	28	105,990.3800	118,448.2300

ENTER & ASSIGN

294	106,488.2490	118,773.7239
293	106,654.1306	119,609.8320
295	105,948.8183	118,433.4381

293	106,654.1306	119,609.8320	224.0000 03-1
294	106,488.2490	118,773.7239	208.3500 03-2
295	105,948.8183	118,433.4381	205.6000 03-3

7/10 SITE

15	115,798.9100	106,422.9600	175.0000 45-2
16	116,244.5300	107,027.7500	176.0000 45-4
ART			
15 INV NE	53 36 59.6	751.231	15
16 S.S. SE	19 58 24.4	583.110	16
16 S.S. SE	50 29 40.4	858.828	297
16 TRAV SE	24 59 28.4	1354.824	298
148 S.S. SW	15 34 51.6	153.106	148
48 S.S. SE	71 17 49.4	277.296	299
TER & ASSIGN			300
			297
			298
			300
			299
237	115,696.4930	107,226.9316	177.0400 7/10-4
298	115,698.1853	107,690.3909	181.4600 7/10-5
299	114,869.0750	107,559.0112	169.2400 7/10-1
300	114,927.6363	107,862.7883	170.9500 7/10-2

-1 AND IS-2

18 117,296.2400 109,530.5900 80,6100 HS-14
19 117,986.1200 109,718.8200 109,6300 HS-15

ART 18 117,296.2400 109,530.5900
18 INV NE 15 15 40.9 715.098 19 117,986.1200 109,718.8200
19 TRAV SW 70 56 11.9 265.902 149 117,899.2727 109,467.5002 #I
19 S.S. SW 0 21 43.9 1012.452 301 116,886.8413 109,461.0998 IS
149 S.S. SW 59 33 35.9 342.218 302 117,725.8927 109,172.4534 IS
ENTER & ASSIGN

LIST

301 116,886.8413 109,461.0998
302 117,725.8927 109,172.4534
301 116,886.8413 109,461.0998
302 117,725.8927 109,172.4534

301 116,886.8413 109,461.0998 109,2300 IS-1
302 117,725.8927 109,172.4534 109,8300 IS-2

-3

20 118,296.3900 111,050.4700 204,6200 HS-19
21 118,354.5300 111,647.5100 207,5200 HS-21

ART 21 118,354.5300 111,647.5100
21 INV SW 84 26 17.0 599.864 20 118,296.3900 111,050.4700
20 TRAV SW 7 43 59.0 457.092 150 117,843.4546 110,988.9647 #I
50 S.S. NE 59 14 55.0 367.003 303 118,031.1082 111,304.3645 IS
ENTER & ASSIGN

303 118,031.1082 111,304.3645
303 118,031.1082 111,304.3645 202,7300 IS-3

ORG LIST

IS-4

22 116,335.1900 109,422.5300 188,2800 HS-29
23 116,314.1700 109,787.3500 189,0700 HS-30

ART 23 116,335.1900 109,787.3500
23 INV SW 86 42 21.7 365.425 22 116,314.1700 109,422.5300
22 S.S. SW 75 54 21.7 857.638 304 116,105.3239 108,590.7089 IS
ENTER & ASSIGN

304 116,105.3239 108,590.7089

304 116,105.3239 108,590.7089 181,7000 IS-4

D3-4

48 107,345.1300 119,285.2800 109,4600 0-1
49 107,340.9800 117,402.4000 209,3000 0-0

START 49 107,340.9800 117,402.4000
49 INV NE 89 52 25.4 1882.885 48 107,345.1300 119,285.2800
48 TRAV SE 83 59 09.6 558.354 151 107,286.5676 119,841.1576 #D
151 TRAV SW 11 04 26.4 1766.350 152 105,553.1074 119,501.8832 #D
52 TRAV NW 78 15 30.6 526.408 296 105,660.2295 118,986.4901 D3
ME FOR THIS RUN: 1 22 07.2; TOTAL TIME ON FILE: 16 37 36.8

COORDINATES STORED

*** EDM SLOPE REDUCTION *****

558.960 SLOPE DIST
209.850 ELEV INST PT
5.000 H.I. DM
4.720 H.I. REFLECTOR
89 43 52 ZENITH
5.000 H.I. THEODOLITE
4.720 H.I. TARGET
212.760 ELEV TARGET PT
558.954 H DIST INST PT
558.948 H DIST SEA LEVEL

1766.350 SLOPE DIST
212.760 ELEV INST PT
5.030 H.I. DM
4.690 H.I. REFLECTOR
90 01 50 ZENITH
5.030 H.I. THEODOLITE
4.690 H.I. TARGET
212.222 ELEV TARGET PT
1766.349 H DIST INST PT
1766.331 H DIST SEA LEVEL

526.420 SLOPE DIST
212.220 ELEV INST PT
5.000 H.I. DM
12.660 H.I. REFLECTOR
89 36 34 ZENITH
5.000 H.I. THEODOLITE
12.660 H.I. TARGET
208.154 ELEV TARGET PT
526.408 H DIST INST PT
526.402 H DIST SEA LEVEL

526.420 SLOPE DIST
208.154 ELEV INST PT
12.660 H.I. DM
5.000 H.I. REFLECTOR
90 23 26 ZENITH
12.660 H.I. THEODOLITE
5.000 H.I. TARGET
212.231 ELEV TARGET PT
526.408 H DIST INST PT
526.402 H DIST SEA LEVEL

1766.360 SLOPE DIST
212.231 ELEV INST PT
5.000 H.I. DM
4.730 H.I. REFLECTOR
89 59 29 ZENITH

5.000 H.I. THEODOLITE
4.730 H.I. TARGET
212.831 ELEV TARGET PT
1766.360 H DIST INST PT
1766.342 H DIST SEA LEVEL

558.990 SLOPE DIST
212.831 ELEV INST PT
5.030 H.I. DM
4.690 H.I. REFLECTOR
90 20 11 ZENITH
5.030 H.I. THEODOLITE
4.690 H.I. TARGET
209.896 ELEV TARGET PT
558.980 H DIST INST PT
558.975 H DIST SEA LEVEL

COORDINATE FILE:88046 LENGTH = 1000 POINTS; TIME ON FILE: 16 37 36.8
MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

DM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ENTER & ASSIGN			296	105,660.2295	118,986.4901
	275	105,660.2295	118,986.4901	208.1500 03-4	

EH - 1

11	115,703.4400	115,697.0000	217.5700 N-10
12	115,575.0000	115,861.3500	220.3400 N-10

START

42	INV SW	11 50 48.0	942.311	41	115,753.4400	115,687.9000	
41	TRAV SE	75 05 07.0	282.247	153	115,680.7949	115,960.6384	#B
153	TRAV NE	80 52 19.0	1810.610	305	115,968.0330	117,748.3195	EH
TER & ASSIGN							
				305	115,968.0330	117,748.3195	

795	115,968.0330	117,718.3155	230.3400 04-1
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201	107,746.1294	106,745.0070	106.7450 SP2/05
202	108,151.1434	107,147.4535	107.1470 SP2/04
203	108,302.9728	107,273.6949	107.2730 SP2/03
204	108,396.6475	106,915.1515	106.9150 SP2/10
205	108,338.7322	107,009.0046	107.0100 SP2/02
206	108,378.6346	106,722.1303	106.7200 SP2/01
207	108,241.8298	106,762.7154	106.7600 SP2/09
208	108,126.9382	106,715.6924	106.7140 SP2/08
209	108,201.3845	106,708.3952	106.7100 SP2/07
210	107,945.8411	106,567.0165	106.5700 SP2/06
211	108,481.3582	108,589.4741	111.0200 NS3-3
212	107,849.0454	107,554.1610	107.5500 SC-6
213	108,212.9284	108,029.5689	119.2500 NS3-4
214	108,145.6347	108,558.9647	106.9400 NS3-5
215	108,490.8847	108,148.2636	149.0200 NS3-6
216	108,389.7144	108,472.0451	104.0400 SC-5
217	108,844.2132	109,082.7410	121.1300 NS3-2
218	109,281.5244	110,477.1071	121.1100 SC-4
219	109,462.6262	110,453.5974	126.1000 NS3-1
220	109,459.6290	110,719.5777	121.2700 SP4-2
221	109,704.5952	111,549.9421	137.6600 SP4-1
222	110,078.0103	110,546.4613	173.6700 SP4-3
223	111,315.0516	111,722.7867	181.9400 SP14-1
224	110,584.3686	111,734.3148	181.2600 SP14-2
225	113,469.2812	112,037.3910	195.2100 SP13-1
226	113,456.1795	112,126.2080	195.4900 SP13-2
227	113,705.2608	110,694.9393	185.0300 SP15-1
228	114,031.3497	110,868.3180	184.5800 SP15-2
229	114,216.5957	100,793.9178	253.7700 SP5R16
230	114,205.3938	100,646.6820	252.9800 SP5R15
231	114,239.0405	101,222.4914	236.6800 SP5R19
232	114,213.1166	100,779.5028	251.3000 TRENCH
233	114,170.7374	100,442.9771	242.5600 SP5R14
234	114,272.9628	101,089.2490	245.0000 SP5R18
235	114,238.5836	100,941.5885	241.2100 SP5R17
236	114,165.7207	100,808.2614	229.3000 TRENCH
237	114,733.0894	101,208.4833	266.2800 SP5-5
238	114,290.5141	100,808.7089	268.4300 SP5-7
239	114,503.6089	101,056.4923	268.8600 SP5-6
240	114,538.5735	100,900.7903	279.9700 SP5-1
241	114,528.1563	100,595.3437	265.5200 SP5-2
242	114,536.8458	100,776.0842	271.9900 SP5-9
243	114,581.7702	100,605.8049	261.5700 SP5-3
244	114,545.2592	100,847.1879	256.3100 SP5-4
245	114,467.9319	100,450.7002	262.1400 SP5-11
246	114,508.5071	100,343.5566	255.5000 SP5-12
247	114,766.1173	100,394.3647	235.2700 SP5-13
248	114,959.2434	100,668.8990	235.1400 SP5-10
249	114,969.3632	100,360.7994	219.0900 SP5-10
250	114,965.1412	100,797.5739	249.7900 SP5-8
251	113,727.3387	98,874.6367	188.9900 D15-01
252	113,966.8490	98,867.1883	187.4100 D15-02
253	109,026.3500	99,137.6058	106.7600 NS1-4
254	110,441.1488	101,198.5075	128.5400 NS1-3
255	111,575.8249	101,597.9883	145.3800 SH-6
256	112,194.8095	102,064.6190	141.7900 NS1-2
257	106,623.5603	104,547.7786	138.3400 SP1-2
258	106,177.6805	103,734.6345	100.6900 SP1-1
259	111,622.8466	104,339.0910	151.0500 D17-4
260	110,134.6247	105,809.2272	154.6300 IS-8
261	111,961.1733	105,632.3739	155.5000 D17-2

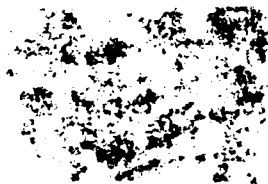
268	110,445.0647	100,413.2092	104,1400 112-1
269	110,445.0605	104,204.1370	140,0600 117-0
270	110,367.0520	103,071.0375	171,0000 117-5
271	110,311.0219	105,445.0317	100,0000 101-1
272	110,708.2374	104,008.0001	140,0000 05-0
273	110,709.0000	104,057.1049	140,0000 06-1
274	110,739.0641	104,005.0536	140,0000 06-5
275	110,751.0569	104,051.0040	140,0000 06-4
276	110,767.0535	104,001.0000	140,0000 06-5
277	110,695.1020	104,017.0599	140,0000 06-5
278	110,644.0050	107,000.0440	107,0000 06-0
279	117,000.0307	115,067.0022	115,0000 15-5
280	117,019.0713	115,475.4501	115,0000 15-6
281	120,024.0215	111,007.0404	249,0000 04-2
282	123,050.0510	115,000.0570	010-3
283	123,123.4326	115,029.0370	016-1
284	123,125.4224	115,050.1014	016-2
285	123,103.0517	115,000.0713	016-4
286	121,045.0506	110,015.4634	310,2700 04-0
287	117,491.4633	105,006.0522	303,1900 04-4
288	116,527.0065	105,007.1469	245,0000 04-5
289	113,431.0071	108,025.0722	176,0000 07-1
290	113,421.0035	108,014.0633	176,0000 07-3
291	113,378.7933	108,005.7118	176,0000 07-4
292	111,955.0510	116,139.1032	207,0300 013-3
293	112,640.0660	116,323.0915	210,0000 013-2
294	112,010.0753	116,794.0900	205,2000 013-4
295	112,000.0449	116,009.4770	210,7600 052-2
296	113,192.4906	117,062.4407	211,3400 052-1
297	112,050.4362	117,399.2606	214,0500 013-1
298	106,654.1306	113,009.0320	224,0000 03-1
299	106,400.2490	110,773.7239	200,3500 03-2
300	105,940.0103	110,433.4301	205,6000 03-3
301	105,660.2295	110,006.4901	200,1500 03-4
302	115,096.4930	107,225.0316	177,0400 7/10-4
303	115,090.1053	107,090.0909	101,4600 7/10-3
304	114,063.0750	107,559.0112	169,2000 7/10-1
305	114,027.0363	107,062.7803	170,9500 7/10-2
306	116,006.0413	109,461.0999	100,2300 15-1
307	117,725.0927	109,172.4534	109,0300 15-2
308	110,031.1002	111,304.3645	202,7300 15-3
309	116,105.3239	100,590.7009	101,7000 15-4
310	115,060.0330	117,740.3195	230,3400 04-1

MAPLE HILL, CANADA - 1000 POINTS: DEMO ON FILE: 10 01 34
 MINORAD: DEMONSTRATION: ***** 108 180046

***** 108 *****

FROM	POINTS	DISTANCE	TO	NORTHING	EASTING
1	107,950.5100	100,049.1800	148,0500 00-1		
2	115,565.9700	88,890.5800	171,0200 0-11		
3	113,679.1700	79,550.1300	197,0000 0-12		
4	114,944.1500	101,041.2500	205,0000 0-15		
5	110,385.0200	107,144.7400	157,6200 EAF-10		
6	111,161.6300	107,322.6500	163,2700 EAF-11		
7	106,514.6100	104,168.0200	136,2500 F-1		
8	107,079.1000	105,466.3500	137,2300 F-2		
9	107,649.9500	106,319.2600	140,4200 F-3		
10	107,918.5600	106,376.2500	139,0600 F-4		
11	108,006.4900	107,009.6200	144,8500 F-5		
12	109,490.5400	109,492.4300	149,1400 F-6		
13	110,177.5600	111,036.7400	175,0800 G-1		
14	110,214.1500	110,893.1100	173,0700 G-19		
15	115,798.9100	106,422.3600	175,5100 HS-2		
16	116,244.5500	107,027.7500	179,2600 HS-4		
17	115,991.4900	107,397.7600	181,3600 HS-7		
18	117,296.2400	109,530.5900	192,6100 HS-14		
19	117,386.1200	109,719.8200	194,6300 HS-15		
20	119,236.3900	111,050.4700	204,8200 HS-19		
21	118,354.5300	111,647.5100	207,5200 HS-21		
22	116,514.1700	109,422.5300	188,2800 HS-29		
23	116,335.1900	109,797.3500	189,9700 HS-30		
24	117,747.3800	104,021.0300	255,0100 J-22		
25	116,458.3400	103,622.4200	260,8900 J-23		
26	109,949.7900	98,988.0600	160,1700 MB-27		
27	106,856.1100	119,510.5200	213,6200 MB-116		
28	105,990.3800	118,448.2300	205,5800 MB-124		
29	110,386.2200	111,935.2000	179,6500 MB-130		
30	111,339.3300	111,837.9000	179,7600 MB-131		
31	113,017.7800	109,765.4800	177,6000 MB-136		
32	113,549.1400	109,261.9500	175,5600 MB-137		
33	113,409.1100	111,752.1800	184,6600 MB-141		
34	113,425.7700	111,133.5400	183,8500 MB-142		
35	113,759.1800	112,125.1900	185,1300 MB-145		
36	110,504.1900	100,912.3600	137,2800 MC-9		
37	110,210.1800	100,390.3700	136,6800 MC-10		
38	109,429.5900	99,584.4900	136,3500 MC-11		
39	110,796.7500	105,683.4800	152,1200 MH-23		
40	115,753.4400	115,667.9000	217,3700 N-18		
41	116,675.6800	115,881.3500	220,6400 N-28		
42	120,928.4600	114,469.4100	272,0900 N-6		
43	121,907.8400	114,703.9500	279,2300 N-8		
44	122,210.7100	115,138.5000	275,5800 N-9		
45	123,279.6300	116,308.1800	N-11A		
46	124,041.5900	116,451.6400	N-12A		
47	107,345.1300	119,285.2807	209,8500 O-1		
48	107,340.9900	117,482.4000	202,7000 O-2		
49	110,913.1700	115,664.4500	196,9200 O-4		
50	108,408.3500	106,455.6000	151,3500 PY-20		
51	112,177.4400	106,006.1600	154,0600 PY-23		
52	111,297.2600	104,837.1900	152,8200 ST-146		

14	100,000,000	11,000,000	11,000,000
15	100,000,000	10,000,000	10,000,000
16	100,000,000	10,000,000	10,000,000
17	100,000,000	10,000,000	10,000,000



TIME FOR THIS RUN: 0 25 18.5; TOTAL TIME ON FILE: 17 21 05.6

ORDINATES STORED

*** EIM SLOPE REDUCTION *****

15.140 SLOPE DIST
175.120 ELEV INST PT
4.450 H.I. DM
4.450 H.I. REFLECTOR
90 00 14 ZENITH
4.450 H.I. THEODOLITE
4.450 H.I. TARGET
175.120 ELEV TARGET PT
15.127 H DIST INST PT
15.127 H DIST SEA LEVEL

236.960 SLOPE DIST
275.420 ELEV INST PT
4.650 H.I. DM
5.180 H.I. REFLECTOR
90 00 23 ZENITH
4.650 H.I. THEODOLITE
5.180 H.I. TARGET
274.865 ELEV TARGET PT
236.960 H DIST INST PT
236.957 H DIST SEA LEVEL

237.000 SLOPE DIST
274.870 ELEV INST PT
5.300 H.I. DM
4.340 H.I. REFLECTOR
90 06 34 ZENITH
5.300 H.I. THEODOLITE
4.340 H.I. TARGET
275.378 ELEV TARGET PT
237.000 H DIST INST PT
236.996 H DIST SEA LEVEL

237.000 SLOPE DIST
274.870 ELEV INST PT
5.330 H.I. DM
4.340 H.I. REFLECTOR
90 06 34 ZENITH
5.330 H.I. THEODOLITE
4.340 H.I. TARGET
275.408 ELEV TARGET PT
237.000 H DIST INST PT
236.996 H DIST SEA LEVEL

72.860 SLOPE DIST
274.870 ELEV INST PT
5.330 H.I. DM
4.900 H.I. REFLECTOR
90 00 00 ZENITH
5.330 H.I. THEODOLITE
4.900 H.I. TARGET
275.300 ELEV TARGET PT
72.860 H DIST INST PT
72.859 H DIST SEA LEVEL

250.680 SLOPE DIST
274.870 ELEV INST PT

5.330 H.I. LM
 10.720 H.I. REFLECTOR
 88 07 57 ZENITH
 5.330 H.I. THEODOLITE
 10.720 H.I. TARGET
 277.651 ELEV TARGET PT
 250.547 H DIST INST PT
 250.543 H DIST SEA LEVEL

COORDINATE FILE:88046S LENGTH = 1000 POINTS; TIME ON FILE: 17 22 05.6
 ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
-----------	---------	----------	----	----------	---------

ENTER & ASSIGN

277	2,658,175.2941	539,592.9543
278	2,658,040.0845	539,455.0828
279	2,658,051.8640	539,383.1886
280	2,658,018.9757	539,205.4515
46	2,658,196.7867	539,632.8000

TER & ASSIGN

230	2,649,078.5774	524,299.4112
245	2,649,340.5156	524,102.6821
246	2,649,388.8502	523,995.4073
247	2,649,638.5057	524,045.4807

TIME FOR THIS RUN: 0 07 21.6; TOTAL TIME ON FILE: 17 29 27.2
 ORDINATES STORED

COORDINATE FILE:88046S LENGTH = 1000 POINTS; TIME ON FILE: 17 29 27.2
 ELMENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
-----------	---------	----------	----	----------	---------

277	2,658,175.2941	539,592.9543	273.2300 016-3
278	2,658,040.0845	539,455.0828	274.8700 016-1
279	2,658,051.8640	539,383.1886	275.3000 016-2
280	2,658,018.9757	539,205.4515	277.6500 016-4

230	2,649,078.5774	524,299.4112	252.5100 SP5R15
-----	----------------	--------------	-----------------

245	2,649,340.5156	524,102.6821	262.2000 SP5-11
-----	----------------	--------------	-----------------

246	2,649,388.8502	523,995.4073	260.3000 SP5-12
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247	2,649,638.5057	524,045.4807	234.4000 SP5-13
-----	----------------	--------------	-----------------

FOR THIS RUN: 0 01 23.4; TOTAL TIME ON FILE: 17 31 51.6
 ORDINATES STORED

ORDINATE FILE: 88046 LENGTH = 1000 POINTS; TIME ON FILE: 15 07 36.2
 KLEINERDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
STATION					
46	123.279.6300	115.008.1800	275.4200 N-11N		
277	123.259.2510	115.968.2678	273.2200 016-3		
278	123.123.4425	115.429.9879	274.8700 016-1		
279	123.135.1234	115.758.1214	275.8000 016-2		
280	123.183.9517	115.580.2715	277.6500 016-4		
290	114.205.3938	100.646.6820	252.5100 SPS-15		
295	114.467.9319	100.450.7802	262.3000 SPS-11		
296	114.516.5442	100.343.5566	260.3000 SPS-12		
297	114.766.1173	100.394.3547	234.1000 SPS-13		

FOR THIS RUN: 0 02 51.3; TOTAL TIME ON FILE: 16 40 29.1
 COORDINATES STORED

ORDINATE FILE: 88046 LENGTH = 1000 POINTS; TIME ON FILE: 16 40 28.1
 KLEINERDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** COGO *****

FROM TYPE	BEARING	DISTANCE	TO	NORTHING	EASTING
ST					
			201	107,746.4394	106,743.6072
			202	108,151.1434	107,197.4505
			203	108,302.8798	107,373.6049
			204	108,096.6475	106,915.9915
			205	108,398.7822	107,009.5096
			206	108,378.9340	106,722.1303
			207	108,241.8298	106,768.7158
			208	108,126.9382	106,725.6934
			209	108,201.3845	106,709.9952
			210	107,845.8411	106,587.0165
			211	108,491.9582	108,589.4741
			212	107,849.0454	107,569.1610
			213	109,212.9284	108,229.5609
			214	109,195.6347	108,558.9647
			215	109,490.8097	109,148.2696
			216	108,089.3144	108,472.0451
			217	108,944.2132	109,882.7410
			218	109,281.5244	110,477.4071
			219	109,462.6262	110,463.5974
			220	109,459.6290	110,719.5777
			221	109,704.5952	111,548.9421
			222	110,070.0183	110,546.4813
			223	111,315.0516	111,722.7867
			224	110,584.3686	111,734.3148
			225	113,469.2812	112,037.9810
			226	113,456.1785	112,126.2080
			227	113,705.2608	110,694.9393
			228	114,031.8497	110,868.3180
			229	114,216.5957	100,793.9178
			230	114,205.3938	100,646.6820
			231	114,239.0405	101,222.4914
			232	114,213.1166	100,779.5028

ORDINATE FILE:88046S LENGTH = 1000 POINTS; TIME ON FILE: 16 46 15.1
MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** ROTATION *****

ROTATE LINE 418 TO 411 ABOUT 418 FROM NE 70 37 06.9 15803.466-----
COORDINATE FILE:88046S LENGTH = 1000 POINTS; TIME ON FILE: 16 46 15.1
MENDORF GEOTECHNICAL SURVEY ***** JOB #88046

***** ROTATION *****

ROTATE LINE 418 TO 411 ABOUT 418 FROM NE 70 37 06.9 15803.466
TO NE 70 27 03.9
A ROTATION OF- 0 10 03.1

SCALE 0.9999013
TRANSLATE TO:

418 2,644,900.9600 533,664.0600

FROM BEARING DISTANCE TO NORTHING EASTING

1	2,642,843.5313	529,719.7383
2	2,648,433.4947	522,343.1801
3	2,648,548.1449	523,184.8654
4	2,649,720.2923	525,332.0053
5	2,645,278.5383	530,857.5610
6	2,646,054.4224	530,993.4895
7	2,641,398.8819	527,843.5696
8	2,641,967.1387	529,139.9156
9	2,642,540.3801	529,986.5695
10	2,642,808.8951	530,646.7420
11	2,643,401.4828	531,578.2614
12	2,644,387.1453	532,158.1346
13	2,645,081.4648	534,670.1772
14	2,645,117.6959	534,555.4521
15	2,650,688.8158	530,070.4359
16	2,651,136.1580	530,673.8610
17	2,650,875.9808	531,644.5400
18	2,652,195.0764	533,173.3687
19	2,652,885.4356	533,359.5625
20	2,653,199.5666	534,690.1684
21	2,653,259.4460	535,286.9769
22	2,651,212.7916	533,068.1908
23	2,651,234.8760	533,432.9118
24	2,652,630.0634	527,663.0572
25	2,651,339.9909	527,268.2566
26	2,644,818.5631	522,653.4007
27	2,641,785.1966	543,182.7914
28	2,640,916.4502	542,123.1417
30	2,645,292.5052	535,497.9420
31	2,646,245.5250	535,497.8554
32	2,647,917.7437	533,420.7420
33	2,648,446.5770	532,915.7135
34	2,648,314.8412	535,406.0935
35	2,648,395.6842	534,787.2755
36	2,648,356.9972	535,778.8550
37	2,645,378.5315	524,575.8818
38	2,645,083.3258	524,054.8042
39	2,644,300.1603	523,251.2800
40	2,645,685.0091	529,345.6553
41	2,650,670.4354	539,334.5548
42	2,651,593.1460	539,525.2889
43	2,655,841.3804	538,101.0617

44	2,650,821.3252	538,552.7145
45	2,657,125.5806	538,816.3292
46	2,658,196.7867	539,632.8000
47	2,658,959.9647	540,073.9868
48	2,642,273.5077	542,956.1450
49	2,642,263.8538	541,073.4711
50	2,645,830.5953	539,325.2572
51	2,643,299.1129	530,124.8780
52	2,647,066.5003	529,664.2658
53	2,646,183.0136	528,497.9892
54	2,655,515.9241	538,153.3784
55	2,648,969.5481	525,125.0600
56	2,644,485.9652	535,174.3508
100	2,643,409.2090	530,956.4332
101	2,643,663.3976	532,395.8798
102	2,643,992.3600	533,219.1459
103	2,643,806.1479	533,636.7026
104	2,644,300.6287	534,087.9146
105	2,644,322.8912	534,503.8061
106	2,644,506.4683	534,676.2991
107	2,644,485.9657	535,174.3502
108	2,648,398.3227	534,767.0791
109	2,649,148.3535	524,442.9449
110	2,649,412.9131	524,557.0469
111	2,649,740.2816	525,221.5601
112	2,649,720.2925	525,332.0055
113	2,649,844.3681	524,452.2133
114	2,648,470.7814	522,637.4586
115	2,648,365.8895	522,359.1525
116	2,648,433.4945	522,343.1797
117	2,644,003.3272	522,761.9634
118	2,645,437.1939	524,834.6185
119	2,646,111.3365	524,906.4004
120	2,641,177.3093	527,370.4634
121	2,646,183.0138	528,497.9887
122	2,646,083.0291	527,077.8911
123	2,652,210.1111	539,229.1477
124	2,656,898.6489	538,490.3183
125	2,657,073.1547	538,057.6680
126	2,656,942.7078	537,372.2247
127	2,656,611.6434	535,132.3238
128	2,656,459.0432	534,542.2444
129	2,651,562.6033	527,473.0830
130	2,651,485.7275	528,132.7071
131	2,651,502.2710	528,552.4774
132	2,651,840.9872	528,901.0003
133	2,651,154.4145	527,298.8839
134	2,651,335.6508	526,761.3634
135	2,647,093.8223	539,422.0919
136	2,650,670.4360	539,334.5549
137	2,647,760.8787	539,571.1719
138	2,647,730.0320	540,033.8702
139	2,647,960.2017	540,781.4387
140	2,641,753.0564	543,070.5660
141	2,641,572.3360	542,765.5181
142	2,641,399.9610	542,509.7238
143	2,641,288.3535	542,344.1152
144	2,641,144.5271	542,163.8486
145	2,641,085.0086	541,933.6709
146	2,640,917.1824	542,086.6848
147	2,640,916.4499	542,123.1415
148	2,649,909.9822	531,249.7773
149	2,652,797.8626	533,108.5225
150	2,652,746.4981	534,629.9935
151	2,642,216.5765	543,512.1366
152	2,640,482.3029	543,177.9647

200	2,630,390.3931	533,607.4773
201	2,642,638.1118	530,414.5905
202	2,643,044.1009	530,867.2039
203	2,643,196.3366	531,042.8967
204	2,642,988.7878	530,585.9333
205	2,643,291.1647	530,678.5585
206	2,643,270.4785	530,391.2669
207	2,643,133.5246	530,438.2484
208	2,643,018.5190	530,395.5663
209	2,643,092.9117	530,379.6520
210	2,642,737.0454	530,257.7254
211	2,643,388.9500	532,258.0879
212	2,642,743.1206	531,239.7594
213	2,644,108.7938	531,896.1041
214	2,644,092.4648	532,225.5245
215	2,644,389.3322	532,813.9059
216	2,642,986.0043	532,141.8481
217	2,643,844.9391	533,549.8995
218	2,644,183.9540	534,143.5183
219	2,644,364.9968	534,129.1806
220	2,644,362.7482	534,385.1433
221	2,644,610.1138	535,213.7062
222	2,644,972.5687	534,210.2804
223	2,646,220.9125	535,382.8250
224	2,645,490.3385	535,396.4879
225	2,648,375.8418	535,691.6892
226	2,648,362.9983	535,779.9453
227	2,648,607.8708	534,348.0959
228	2,648,934.9329	534,520.5020
229	2,649,090.2087	524,446.5991
230	2,649,078.5774	524,299.4112
231	2,649,113.9040	524,875.0630
232	2,649,086.6878	524,432.1957
233	2,649,043.3292	524,095.8286
234	2,649,147.4333	524,741.7351
235	2,649,112.6260	524,594.1903
236	2,649,039.3808	524,461.0899
237	2,649,607.8611	524,859.6120
238	2,649,164.1627	524,461.1726
239	2,649,377.9600	524,708.3076
240	2,649,412.4657	524,552.5193
241	2,649,401.1567	524,247.1346
242	2,649,409.5929	524,427.8334
243	2,649,556.2931	524,257.1413
244	2,649,513.9792	524,498.6252
245	2,649,340.5156	524,102.6821
246	2,649,388.8502	523,995.4073
247	2,649,638.5057	524,045.4807
248	2,649,832.4144	524,319.4221
249	2,649,841.6325	524,011.3247
250	2,649,838.6878	524,448.0726
251	2,648,595.3912	522,528.9459
252	2,648,734.8655	522,521.0904
253	2,643,895.6554	522,805.6307
254	2,645,316.6333	524,862.1833
255	2,646,452.0604	525,258.3067
256	2,647,072.3454	525,723.0799
257	2,641,508.9291	528,222.2907
258	2,641,060.7180	527,410.5137
259	2,646,518.8435	528,598.8987
260	2,645,073.3141	529,473.1790
261	2,646,849.3385	529,351.1442
262	2,647,287.2958	529,170.9213
263	2,646,333.3665	529,073.4050
264	2,646,329.6598	528,023.8122
265	2,646,946.3644	527,530.2461

266	2,640,133.3800	527,200.2320
267	2,645,611.4549	528,270.5200
268	2,645,594.3444	528,219.7310
269	2,645,624.3537	528,328.1024
270	2,645,636.7126	528,213.6274
271	2,645,652.9527	528,263.9076
272	2,645,580.3364	528,280.4418
273	2,645,536.3289	530,730.7282
274	2,652,204.8075	539,309.3330
275	2,652,636.0520	539,119.3860
276	2,655,537.2759	538,119.9375
277	2,658,175.2941	539,592.9543
278	2,658,040.0845	539,455.0828
279	2,658,051.8640	539,383.1386
280	2,658,018.9757	539,205.4515
281	2,656,448.0379	534,545.6770
282	2,652,367.9322	528,949.2243
283	2,651,407.0194	526,682.8428
284	2,648,328.0909	532,279.4422
285	2,648,317.9402	532,268.4640
286	2,648,275.2124	532,220.0450
287	2,646,874.2574	539,796.8443
288	2,647,568.0389	539,978.7568
289	2,646,939.4625	540,442.4574
290	2,647,807.6863	540,044.4361
291	2,648,113.7760	540,716.4406
292	2,647,880.7224	541,053.9100
293	2,641,583.5283	543,282.6837
294	2,641,415.2195	542,447.1467
295	2,640,874.8496	542,108.4728
296	2,640,587.9073	542,662.3115
297	2,650,588.7597	530,874.6241
298	2,650,591.8066	531,338.0308
299	2,649,762.3977	531,209.0884
300	2,649,821.8411	531,512.6631
301	2,651,785.5167	533,105.0825
302	2,652,623.6379	532,814.0129
303	2,652,935.0543	534,944.8122
304	2,651,001.5353	532,237.0659
305	2,650,891.0297	541,394.1348
411	2,650,188.4613	548,555.0834
412	2,653,000.9603	530,088.4936
413	2,650,264.4009	534,945.6765
414	2,650,231.1409	527,157.2093
415	2,646,878.7593	522,448.4462
416	2,633,910.8124	565,848.0654
417	2,652,563.4930	582,466.6764
418	2,644,900.9600	533,664.0600

TIME FOR THIS RUN: 0.10 41.9
 TAL TIME ON FILE: 16.56 47.1
 COORDINATES STORED

ANCH-88-01

W. H. Hall

WEATHER CO.

Cross Section Book

No. 370-6F

BK#1

WO# 88-046

Index - Book April-88-01

Description

5	SP2/6	short	Control
5	SP2/6	vertical	Control
5	NS3-3	SC-6	
9	NS3-4	NS3-5	NS3-6
10-13	TPAN	TIE SC-5	NS3-2
11-17	VERT. TIE	SP4-1	SP4-2
18	SC-4	NS3-2	NS3-3
19	VERT. TIE	NS3-6	NS3-5
20-21	Horz	tie to SP4-3	
22	"	"	SP4-1
23-24	"	"	SP13-1
25-30	Horz	ties to SPS	SP15-1
31-34	Vert. ties to	SP5-5	SP5-6
35-36	VERT	SP5-3	SP5-4
37-38	Check levels	SP5	SP5A site
39-40	Horz	ties to	D15-1
41	"	"	NS1-4
42	"	"	NS1-3
43-44	"	"	BH-6
45-46	"	"	SP1-1

47-51	Horz	ties to	NS1-1
	D17-2	D17-3	D17-4
	D17-5	D17-6	IS-8
	SP6-1	SP6-2	SP6-3
	SP6-4	SP6-5	SP6-6
52	Aborted Pump Test		
53-54	IS-5	IS-6	Horz
55	Horz	ties to	BH-2
56	Horz	ties to	D16-1
	D16-2	D16-3	D16-4
57-59	Horz	ties to	BH-3

44
7-10
F-5
(10)

FS 4 RA 5 D.1 2 2

F-5
1) 24321.04 621.33 89°53'50" 270 06.50
2) 126°41'50" (189 384)
3) 243 21 25

202
12/6-4
1) 346°26'45" (114.581) 90°43'35" 269°16'15"
2) 332°53'24" 375.52
3) 346°26'45"

203
12/6-3
1) 310°36'21" 227.21 90°41'07" 269°09'15"
2) 201°12'42" (72.523)
3) 310°36'21"

204
12/6-10
1) 146°07' 52.44 90°16'32" 263°49'40"
2) 251°12'00" (170.923)
3) 146°07'

205
12/6-2
1) 272°14' 231.74 90°11'12" 263°49'15"
2) 272°14' (52.054)
3) 272°14'

245°21'34"
14° 48' 07"
245°21' 34"

306/4 (51)
 ① AD-3 B9 PY-20
 4 KI S.D. f Z #
 1" 1) 59°35'10" (16712) 2) 59°52'20"
 3) 14°06'00" 59848 4) 27008'30"
 5) 35° 59°33'00"

04-6-10

"RY-20"

532 154.67

151.15

532/6-9

125

154.15

532

213 157.61

155.73

532/6-8

100 157.57

151.71

532

440 154.11

151.04

532

415 155.19

150.47

532

444 154.93

152.84

"RY-20"

230 155.40

151.34 (151.35)

TOP 2" PVC well casing

734 ft casing - soil spike

734 ft casing - soil spike

734 ft casing - soil spike

734 ft casing - soil spike

10.4.10

10.4.10

13902

C " 5" 35 (12)
 H1 = 4 1/2 + 144 85

FS 4 R1 S.Dist Z A F11 1/4 E1/2

5-6 0°00'00" 1143 1/2 0 89°50'11"
 348 535 0 24°10'40"

112 0 60°35'05"
 117°44'20" 121°10'30" 151°35'15"
 120°35'15" 121°10'30" 122°51'20"

212 117°44'20" 121°10'30" 151°35'15"
 120°35'15" 121°10'30" 122°51'20"

175 98 77
 175 98 77



11 1/2
 11 1/2
 11 1/2

(12) "F-6" 02 "F-6"

4.21

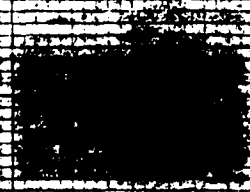
12° 47' 52" 32
 25° 36' 10" 302.24
 12° 48' 05" (116.535) 270° 00' 02"

316° 38' 40" 92° 18' 00"
 213° 18' 00" 302.54
 316° 34' 00" (92.218) 270° 42' 50"

239° 20' 15" 89° 57' 03"
 118° 40' 50" (199.898) 270° 08' 03"
 239° 20' 25" 762.24

311° 20' 53" 91° 40' 54"
 242° 48' 10" 268° 19' 57"
 311° 21' 05" (532.335)

4.2



101
 TP#2 BS
 HI = 5'12"
 FS + R+ S Dist Z +

216
 SC-5
 1) 218°44'40"
 2) 27°29'00"
 3) 18°44'30"
 723.07
 (220.650)
 1) 91°45'37"
 2) 260°15'10"
 3) 260°15'10"

102
 TP#3
 1) 82°24'10"
 2) 172°48'30"
 3) 2°24'15"
 886.76
 (270.316)
 1) 90°34'03"
 2) 261°26'11"
 3) 261°26'11"

102
 TP#3 BS
 TP#2
 FS

103
 TP#4
 1) 225°40'50"
 2) 91°37'52"
 3) 265°40'50"
 457.20
 (181.32)
 1) 87°34'15"
 2) 270°01'00"
 3) 270°53'37"

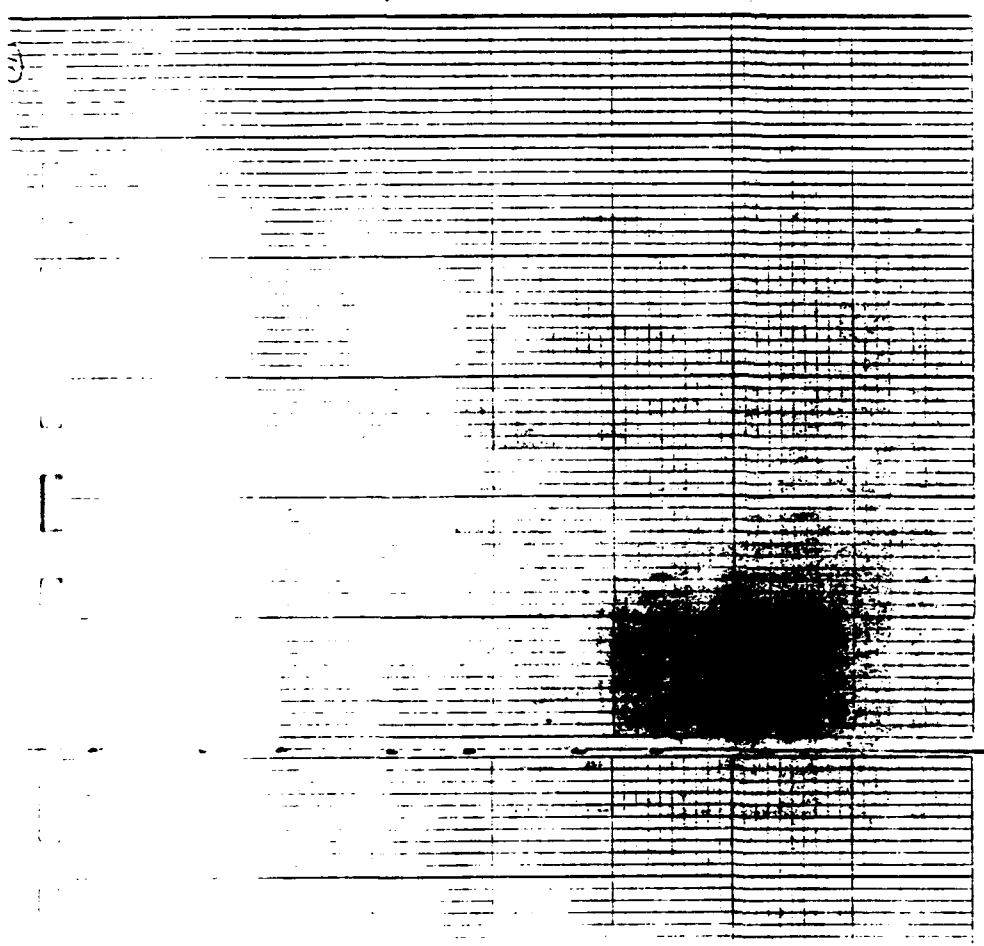
PI = 5'83



TP 4 BS TP 3

FS

117	0°02'45"	95°14'	0°02'45"
117.2	0°05'30"	(29.5)	0°02'45"
	0°02'40"		
104	0°02'45"	66°54'	0°02'45"
TP 5	0°02'45"	0°02'45"	0°02'45"
set spike	0°02'45"	(29.5)	0°02'45"
118	0°02'45"	66°54'	0°02'45"
SC-4	0°02'45"	(29.5)	0°02'45"



104 103
 TP#5 BS TP#4

11	170° 21' 35"	76.48	88° 58' 30"
153-1	170° 34' 00"	(23.209)	171° 02' 20"
220	170° 11' 00"		
504-2	1) 215° 40' 55"	303.62	89° 33' 20"
	2) 71° 31' 45"		270° 27' 30"
	3) 215° 40' 55"	(72.553)	
05	120° 33' 15"	416.23	89° 53' 25"
TP #6	1) 81° 06' 34"	(726.489)	270° 57' 45"
	2) 224° 33' 10"		171° 02' 20"

105
TPAL 75 TPAH

4A 5.0st 2A
1) 136° 18' 50" 251.95 84° 44' 05"
2) 272° 33' 44" (76.15) 270° 16' 34"
3) 136° 16' 52" 189° 43' 45"

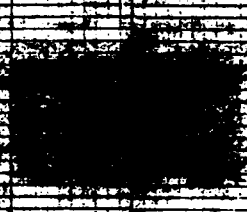
106
TPAL 75 TPAH

4R 5.0st 2A
1) 229° 08' 14" 498.51 84° 44' 30"
2) 78° 16' 51" (151.21) 270° 16' 34"
3) 229° 08' 14" 189° 43' 45"

221
44-1 1) 105° 13' 33" (37.72) 90° 00' 30"
2) 228° 37' 45" 130.85 270° 00' 30"
3) 105° 13' 53"

NS 167	403 236	121 161	50 508	121 161	TRAVEL, 500K	
	409	121 161	(502)	121 161	TRAVEL, 500K	
(1007)	071	138 67	052	121 161	TRAVEL, 500K	
21			614	121 161	TRAVEL, 500K	
PA-1					TRAVEL, 500K	
TP	370	135 83	(449)	131 37	TRAVEL, 500K	
(TP 6)	220		456	131 37	TRAVEL, 500K	
SP4-2					TRAVEL, 500K	
	097	132 24	600	121 161	TRAVEL, 500K	
219					TRAVEL, 500K	
NS 3-1	313	121 31			TRAVEL, 500K	

129.31	(492.1)	121.1	Trans A, Spoke	129.31
4	(32)	121.1	Stream sample at edge under	129.31
	75.5	121.1		129.31
350	560	119.6	Trans A, Spoke	129.31
50	377	121.5	Test well, top 2nd PVC casing	129.31
371	620	118.4		129.31
323	570	115.12		129.31
404	5	115.1		129.31
147	570	115.1		129.31



Depth	Pressure	Temperature	Specific Gravity	Viscosity	API Gravity	Other
115.49	6.23	114.25	115.49	115.49	115.49	
114.25		114.25	114.25	114.25	114.25	
114.29	2.37	114.29	114.29	114.29	114.29	
116.49	3.53	116.49	116.49	116.49	116.49	
120.29	5.50	120.29	120.29	120.29	120.29	
121.87	5.74	121.87	121.87	121.87	121.87	
124.84	6.20	124.84	124.84	124.84	124.84	
119.51	5.03	119.51	119.51	119.51	119.51	

test well, top 2" PVC casing

straw sample

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WS-167

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71

700000

700000

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500

2.10300

721

500

619

50

500

2.10300

12970

13272

12754

3650

14015

2.10301

202

153

400

433

452

121

12708

13134

13770

13477

13563 (13563)

19.2.19
Hawkeye
Ran

14

591	15455	722	14153
697	15380	477	14153
334	15237	1092	14155
290	14441	757	13654
1130 1140	14823	216	14655
720	15320	401	14955
440	15371	555	14815

test with 4p 8" acc. firing



4357
4358

"F-6"

7P

215
1153-6

-P

114
1153-5

7P

213
1153-4

"F-6"

(13)

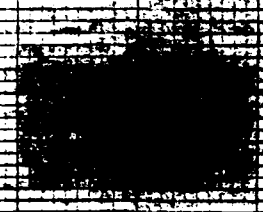
TO "G-1A" BS "G-1"

(14)

Star Dist 2*

1	0°00'00"	120°	D) 90°14'40"	
2	1) 131°40'15"	374.20	D) 90°38'54"	
1-3	2) 271°20'17"	114.48	R) 269°21'46"	
	3) 131°40'08"			
"G-1A"		HI	-	Elw
222 SPA-3	353	176.64	297	173.07
"G-1A"	306	177.33	4.26	173.07

Leaf blank, top 2" B.C. casing



10-5-68
R.A.

$\pi \approx MB-130''$ BS "MB-131"

S 481 5 D.14 Z 4

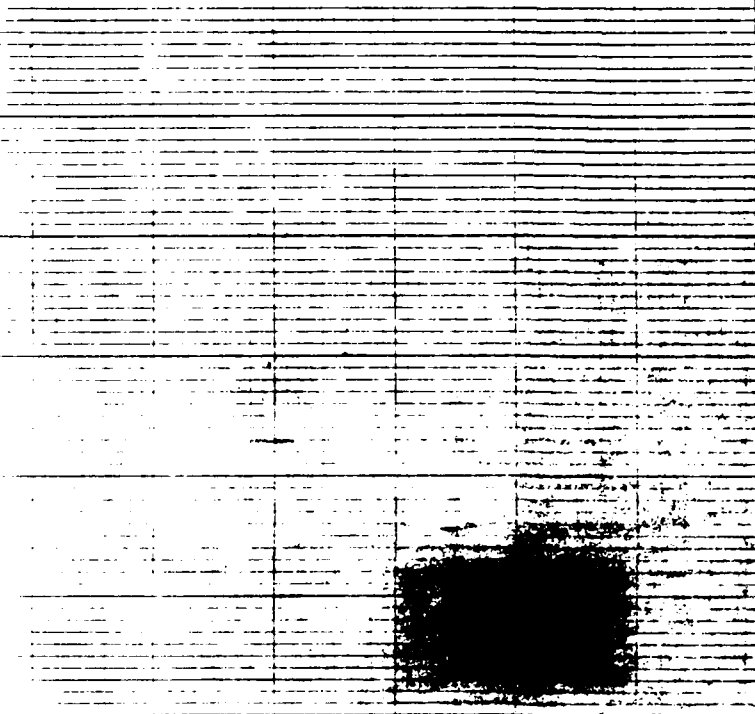
15 131" 00000" (20000) 89'56.37
 953.19 953.19

1) 352'56.17" (285.128) 90°04'48"
 2) 345'52.25" 935.11 268°56'04"
 3) 352'56.17"

1) 0 332'51.32" 222.22 90°28'02"
 2) 305'32.37" (67.22) 261°32'32"
 3) 332'51.14"

(53)

House
 Bar



11
Housing
Film

2" 2" 1" 5" (Cap)

test well, top 2" PVC casing

test well, top 2" PVC casing



1100

1355

4.9

1334.1

2.3

141.55

3.42

184.60

5.46

171.20

5.22

184.42

2.48

141.75

3.01

184.75

5.21

171.75

(141.75)

1E 130"

114-2

74

114-1

"MB-131"

(75)

MB 142

0°00'00" 624 10 89°53'

1

198°20'38" 4872 78°22'12"
30°41'18" (198°211)
198°20'39" 37
11°24'11"00
11°00'00"00
11/180°00'00

1C P1A" BS MB 141

2.14 0°00'00" 644 55 (196°151)
29°51'15"

22.8

2P15.2 23°53'15" 590 33 ✓ 81°56'55"
115°44'44" (190°23) 27°03'48"
23°52'28" 590 40 ✓ 89°52'55"
115°45'20"
231°52'40"

10
2730.4-01
Fig 17

test well, top 2" PVC casing.

二二二

710

51.15

1574.

211

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27. 381

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454

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42.

349

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423

18 25

31-2 -110

TP \rightarrow 109
 A.B. (51)
 2140 BS "WC-6A"

424 S.D.S.T Z.F

0000" 0000" 20723 (215.211)

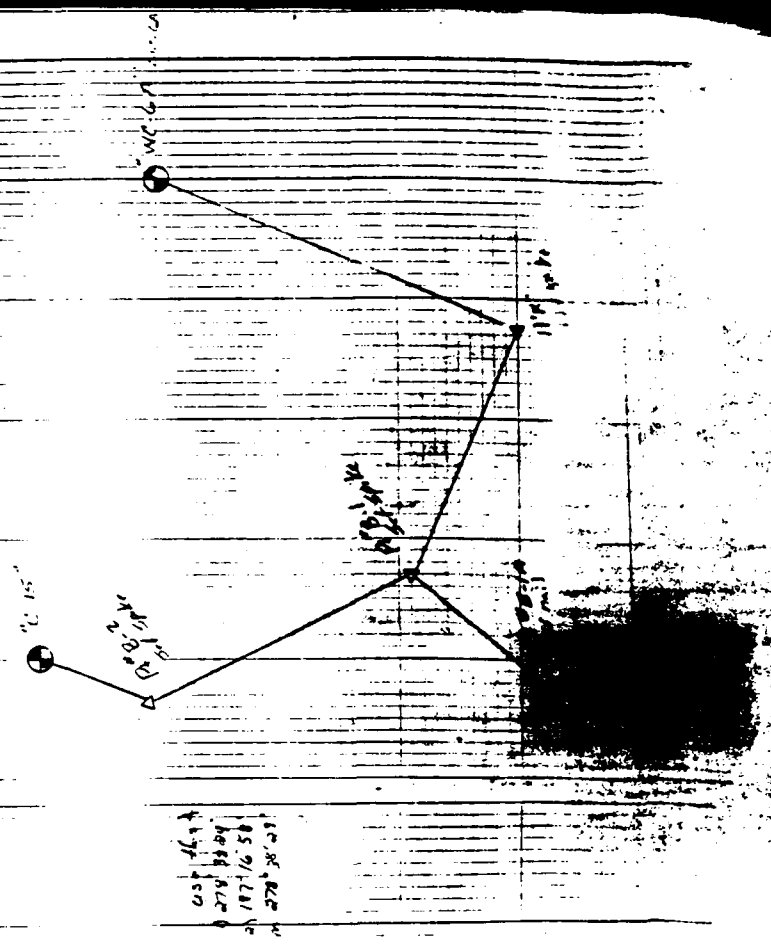
111) 9 278'34.27" (87.913)
 12) 147'17.22 23849
 13) 278'34.27" (87.913)

1 71'42.44" 60.41
 2 143'25.50" (19.431)
 3) 71'42.55"

1 134'23.10" (48.135)
 2) 278'34.27" (87.913)
 3) 134'23.10" (48.135)

1 344'52.15
 2 331'44.50 (32.28)
 3 344'52.15

1 134'23.10" (48.135)
 2) 278'34.27" (87.913)
 3) 134'23.10" (48.135)

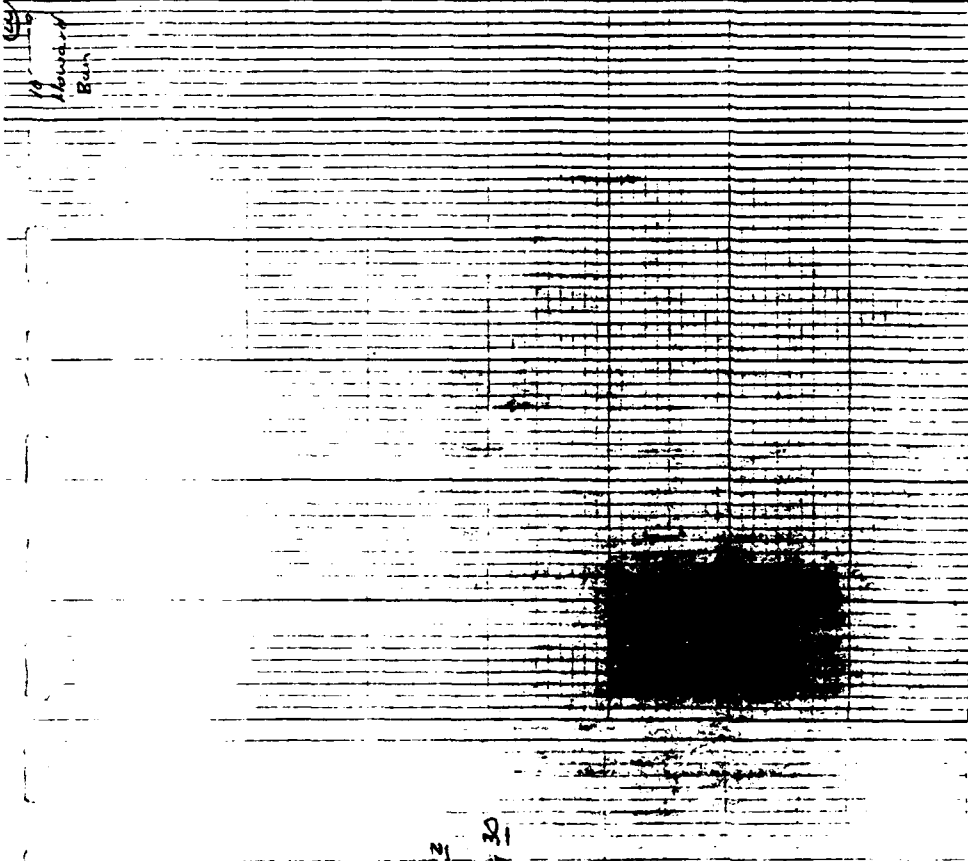


109
 2140
 278'34.27"

94'20.43
 278'34.27"

105'35.30"
 254'25.00"

19
Howard
Bach



$H1 = 435 + 166 = 601$
109
70 81 8 BS WC-6A

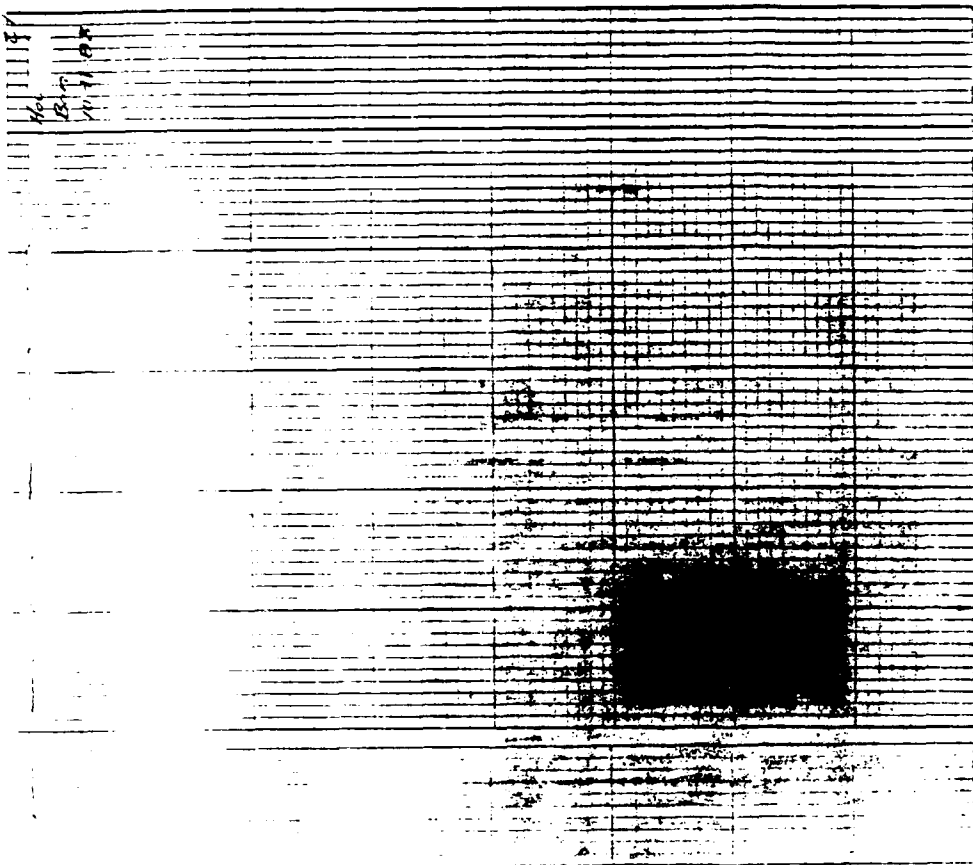
1	345 21 14	191 51	95 09 13
2	330 25 33	300 53	205 15
3	345 21 16		
4	358 36 04		

114 62
105° 22' 45"
254 84 06
34 032
34 032
H1 = 1072
L1 = 224 30

1) 65 52 00
2) 121 42 55
3) 359 12 15
4) 358 36 04

110
 10 14 B-1 BS "B"
 H11 = 486 + 77743
 FS 4 Et = 0334 24

1	230° 33'	(205 M)	80° 50'
2	80° 53' 10"	741.38	20° 54' 11"
3	220° 26' 35"		
15-5	1) 203° 52' 30"	360.18	91° 58' 44"
	2) 67° 45' 04"	(109.23)	308° 03' 04"
	3) 203° 52' 32"		
17	1) 357° 44' 42"	246.84	92° 50' 36"
	2) 235° 29' 45"	(91.36)	207° 10' 24"
	3) 357° 44' 52"		
15-6	1) 259° 40' 24"	155.80	94° 46' 20"
	2) 159° 21' 46"	(47.12)	265° 14' 46"
	3) 259° 40' 53"		
15-1	1) 61° 01' 03"	4.33	100° 03' 19"
	2) 122° 03' 15"		70° 03' 00"
	3) 61° 01' 30"		
15-3	1) 64° 24' 33"	310.58	92° 58' 06"
	2) 128° 59' 42"	(94.01)	267° 02' 58"
	3) 64° 29' 51"		



100
100
100

110
B-1 85 11 5
H1 = 4.85 + 277.43
x B4 S D. 64 Z 4

1) 65° 11' 43" 149.45 94° 27' 48"
2) 130° 33' 45" (39.23) 205° 33' 45"
3) 65° 11' 53"

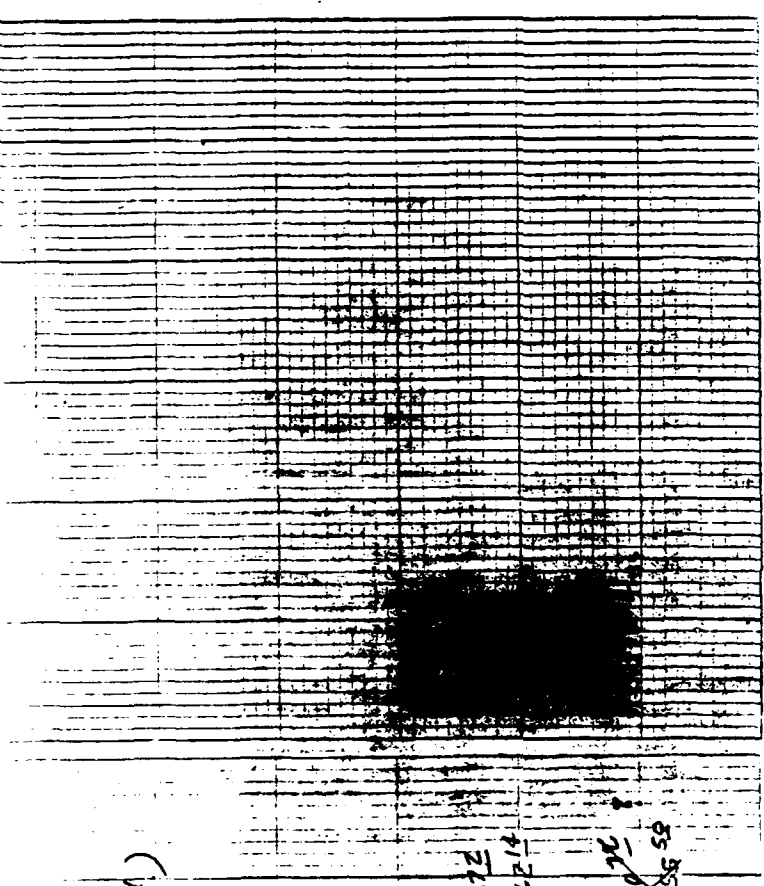
1-3 1) 92° 13' 50" 331.26 92° 51' 09"
2) 184° 26' 36" (101.5) 209° 09' 17"
3) 12° 15' 18" (Note add 100 to H.Dist.)

SP5-4 1) 126° 39' 30" 118.70 100° 24' 38"
2) 253° 16' 45" (76.18) 259° 36' 06"
3) 126° 39' 23"

1-11 1) 143° 00' 57" 460.24
2) 226° 01' 33" (140.30)
3) 143° 00' 47"

SP5-11 1) 57° 36' 40" 460.24 91° 11' 4"
2) 115° 14' 00" (140.30) 208° 51' 58"
3) 57° 37' 00" 208° 50' 05"

1-12 1) 64° 12' 53" 562.45 91° 38' 30"
2) 128° 26' 00" (171.43) 268° 22' 00"
3) 64° 13' 00" ~~H1 = 10.26~~
4) ~~1 = 26.12~~ ~~1 = 26.55~~



10

E/ = 235-27

25 21

111

113

113

113

113

267'46.10"

170.53

10'28.00"

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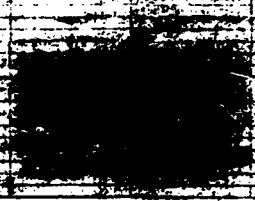
10'28.00"

10'28.00"

10-1-59
Howard
E. H.

TC PB-2 BS PB-1

12 0 10°20'50" 113.01 23°13'01"
 13 1 15 72 50 15 34.44 276°47'00"
 14 2 15 72 50 15 34.44 276°47'00"



124
1-47 98
Howard
R. 9

510
12

11

12-15

121	30621	1124	27-49
047	28415	1143	20396
019	28415	560	27-49
084	27933 27158	1084	20349
304	27153	(525)	20628
316	27202	203	21586

TP

237
SP5-5

SP5-6
239

88
Hansen
Kern

Test well, top 2" PVC casing

Test well, top 2" PVC casing

first barney

Elev

41

+

74

15-7

14" B

11-5-2

13-5-3

74

242
515-9

74" B-1

240
515-1

359

467

455

(74)

021

(63)

080

196

242
270 255

382
270 07

345
268 97

953
278 29

450
281 93

090
280 87

210 15

210 52

261 57

268 76

271 91

277 48

279 97

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test borings

SW. Cor garage, concrete pad Bldg #

400 254.11 4.10 0.5
25.186 Page 37

(72) 250 71

238 26.69

20 276 17

23 282 54

264 51

268 07

276 45

282 93

293 67

416

821

1076

76

1110

411

5-4

11 5785

TP

TP

[illegible]

De 33

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645-154

202 7:56 69-5-69

037, 274, 25

117 20212

252 169 11

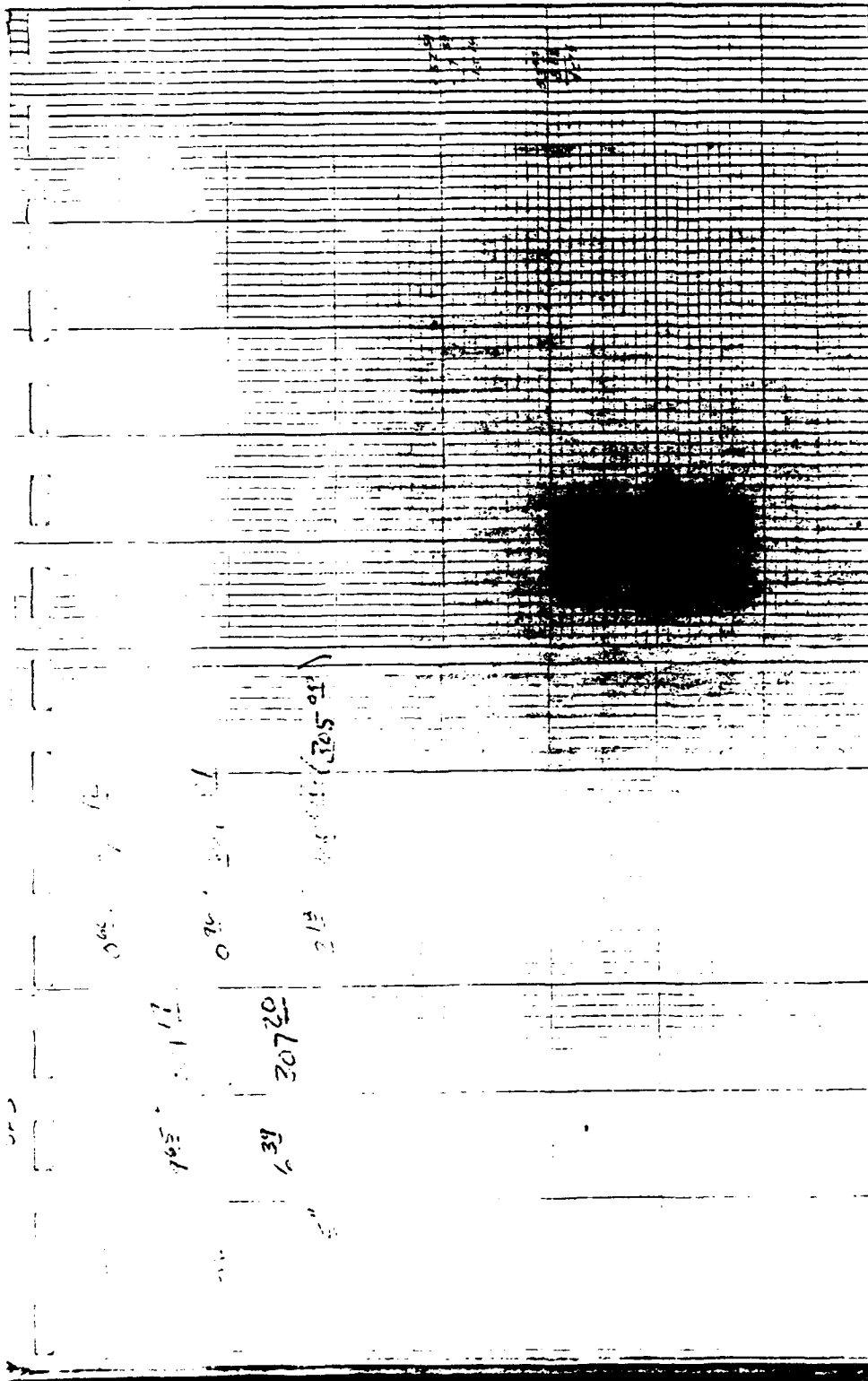
7:22
13

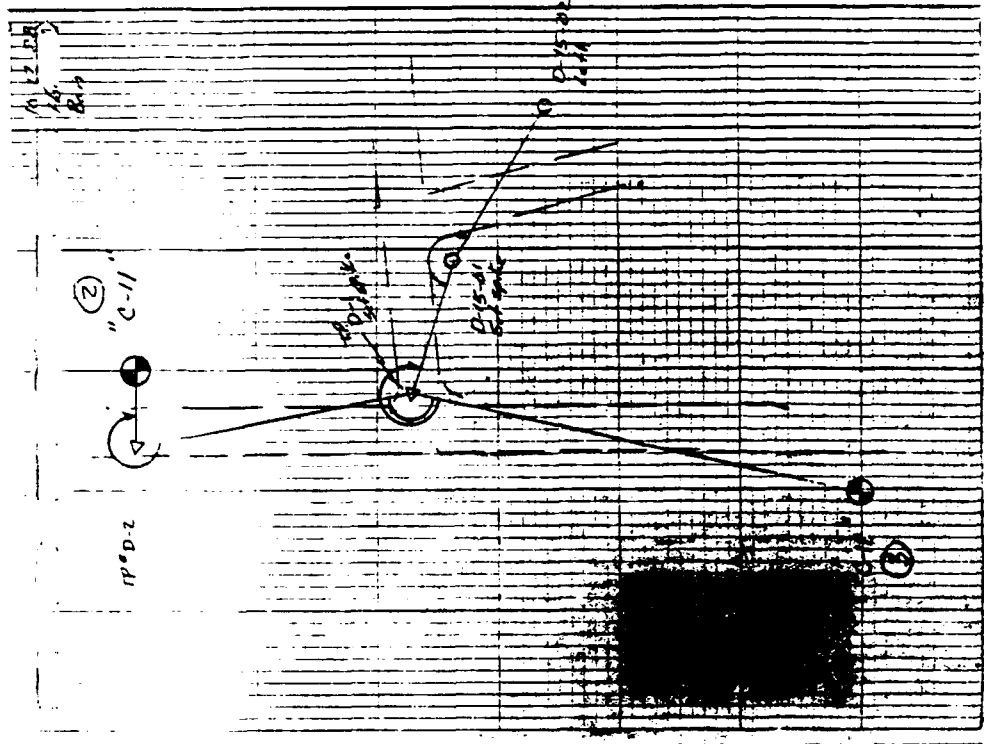
$$\begin{array}{r} 781 \\ 26173 \\ \hline \end{array}$$

718 15743

879 28329

29278
51,01





114
 TC TP#D-1 BS "C-12" (2)

114 21.05 212.4
 D-2 235 42.0 (70.1)
 161° 23' 35"
 0 100.59 60 63.50 87.54 60
 41 155.15 (50.372) 210 35' 20"
 36.59 39
 553.31
 (168.35)
 15.00 42"

TC D-15-01 BS TP#D-1

FS
 0 117.49 10 139.12 90.43 81"
 D-15-02 75.39 10 (42.58) 269 17 50
 117.49 35

TC TP#D-2 BS TP#D-1

115
 0 172.17 64.54 87.50 33"
 "C-11" 174.32 55 (21.29) 272° 22' 10"
 FI 3" BC. 117.21 20

10-13

11

El

10-11"

174.00

11.12

10.45

92.5

184.12

1.20

92.5

142.71

1.40

14.34.5

10.5.01

2.22

10.5.02

(3.72)

11

(5.3)

11.11

1.12

193.17

1.57

84

7

0.10

174.73

1.54

1.11.17

10-11"

3.72

171.01

(71.03)

Σ = 24.0 ✓

Σ = 24.0 ✓

1.1 2" Press Cap

test bearing, 5.1 7.16

test bearing



10-13
11
El

NSI-4 Site

TC MC-11 BS MB-21

FS 1) 0'00.00" 790.83
2) 0'00.00" (241.025)
3) 0'00.00" 88'11.51"

TP # NS 1) 0'00.00" 512.31
2) 0'00.00" 271'50.06"
3) 0'00.00" 267'50.15"

TC TP # NS BS MC-11

FS 1) 0'00.00" 1176.1
2) 0'00.00" 352.34
3) 0'00.00" (35.835)

1) 0'00.00" 1176.1
2) 0'00.00" 352.34
3) 0'00.00" (35.835)

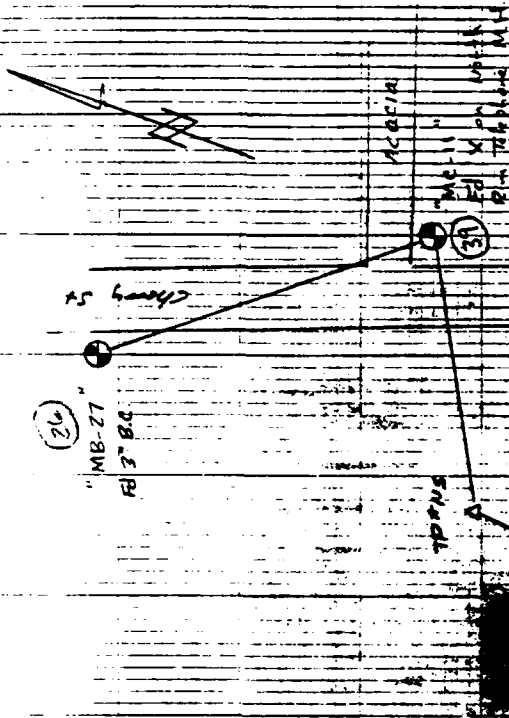
1) 0'00.00" 1176.1
2) 0'00.00" 352.34
3) 0'00.00" (35.835)

HI = 5'50"

HI = 4'35"

HI = 10'43"

FI = 10'70"



NSI-3 site

TPC "MC-9" BS MC-10

HI = 499 137

FS + RT + Det + Z +

111C-10 0°00'00" 598.56 (1182.50) 90°05'31" 269°55'10"
 1) 196°45'25" (90.81) 99°54'45" HI = 471
 2) 33°31'00" 265.15 270°06'30" EI = 130.50
 3) 196°45'30" 111.14 11.4

TPC "MC-9" BS MC-9
 HI = 500 + 138.05

FS + RT + Det + Z +

254 129°54'00" 129.00 94°35'10"
 NSI-3 119°47'30" (57.22) 265°25'35"
 stream sample 120°53'45" 114°24'11"

HI = 499
 EI = 128.50

TPC-9-A NSI-3 stream sample

"MC-9" RT 3" BC

"MC-10" RT 3" BC

10.12.88
 H. W. H. W.
 28.7

10/11/50
Rem

BH-C, test well

TP BH-A
219.0

MC-9

011-6 27 300
MC-10
BS

1 143 48.30 803.28
2 287 37.10 (285.57)
3 143 44.75

TP BH-A BS "MC-9" 217

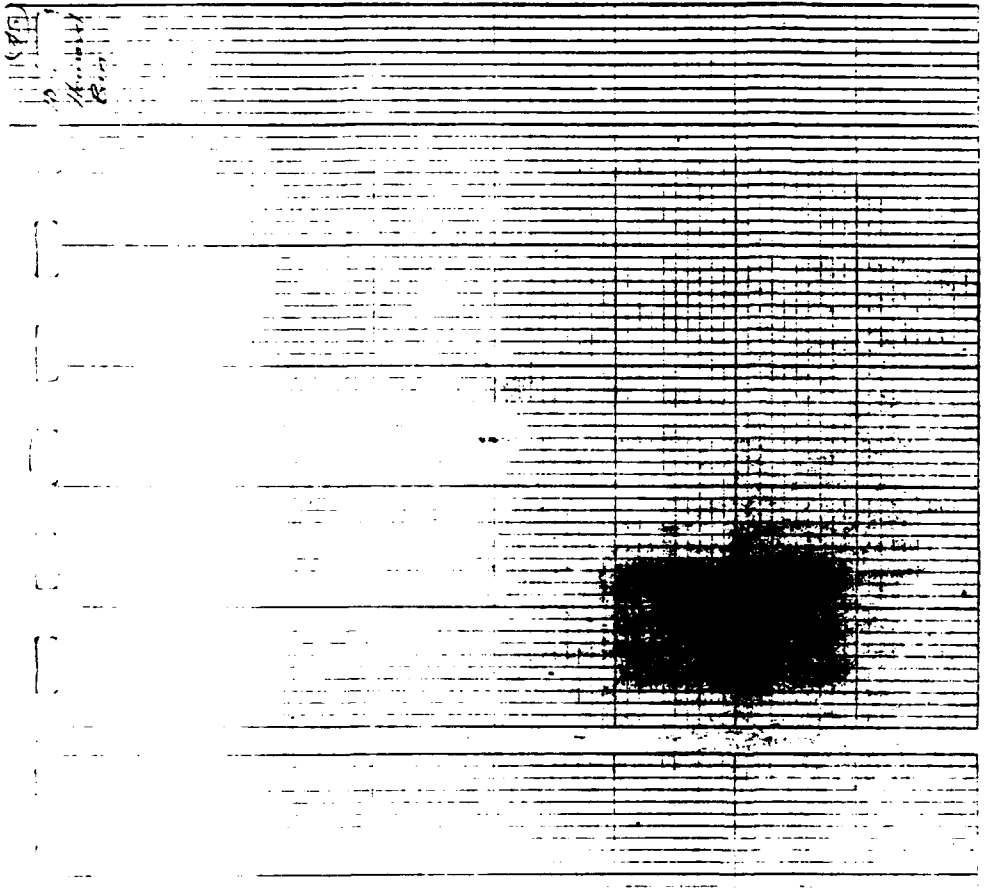
FS
1 201 28.39 489.24 17° 46' 03"
2 43 17.45 (149.25) 270° 14' 45"

Est well M) 201'38" 53"

BH-C BS TP BH-A
HI = 253 219.07 added with casing

1 170° 55' 00" 12
2 341° 50' 15" 715 18 = 394° 40' HI = 10
3 170° 55' 00" 2262 270° 19' 10" FI = 141 19
4 170° 55' 00" 2262 270° 19' 10"

NSI-2
Stream
sample

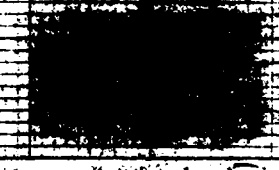


TC	"F-1"	BS	"F-2"
1	184	5034	24
2	0° 00' 00"	1415 22	89° 57' 41"
		(431 48)	270 03 05
1	17° 37' 53"	394 22	90° 18' 17"
2	14° 56' 58"	(120 24)	269° 43' 30"
3	17° 34' 19"	522 48	90° 18' 43"
4	35° 09' 00"	(159 24)	269° 43' 30"
5	178° 34' 30"		
TC	"F-1"	BS	"F-1"
FS	4 R1	5 Dist	24
1	16° 08' 15"	128 25	106° 45' 15"
2	14° 16' 28"	(39 24)	253° 15' 30"
3	16° 08' 14"		

FL 8" Ross Cap

Top LTR Arside on casing (- 0.28 to top 2")
 100.11 - 0.28 = 100.49
 PUC test well casing

Top 2" PUC casing



11.1	129.14	0.45	10.11	100.11
11.2	121.57	0.50	11.11	110.93
11.3	117.92	0.55	12.11	123.91
11.4	108.42	0.60	13.11	137.06
11.5	97.6	0.65	14.11	140.68
11.6	132.0	0.70	15.11	140.07
11.7	134.5	0.75	16.11	
11.8	173	0.80	17.11	
11.9		0.85	18.11	
12.0		0.90	19.11	
12.1		0.95	20.11	
12.2		1.00	21.11	
12.3		1.05	22.11	
12.4		1.10	23.11	
12.5		1.15	24.11	
12.6		1.20	25.11	
12.7		1.25	26.11	
12.8		1.30	27.11	
12.9		1.35	28.11	
13.0		1.40	29.11	
13.1		1.45	30.11	
13.2		1.50	31.11	
13.3		1.55	32.11	
13.4		1.60	33.11	
13.5		1.65	34.11	
13.6		1.70	35.11	
13.7		1.75	36.11	
13.8		1.80	37.11	
13.9		1.85	38.11	
14.0		1.90	39.11	
14.1		1.95	40.11	
14.2		2.00	41.11	
14.3		2.05	42.11	
14.4		2.10	43.11	
14.5		2.15	44.11	
14.6		2.20	45.11	
14.7		2.25	46.11	
14.8		2.30	47.11	
14.9		2.35	48.11	
15.0		2.40	49.11	
15.1		2.45	50.11	
15.2		2.50	51.11	
15.3		2.55	52.11	
15.4		2.60	53.11	
15.5		2.65	54.11	
15.6		2.70	55.11	
15.7		2.75	56.11	
15.8		2.80	57.11	
15.9		2.85	58.11	
16.0		2.90	59.11	
16.1		2.95	60.11	
16.2		3.00	61.11	
16.3		3.05	62.11	
16.4		3.10	63.11	
16.5		3.15	64.11	
16.6		3.20	65.11	
16.7		3.25	66.11	
16.8		3.30	67.11	
16.9		3.35	68.11	
17.0		3.40	69.11	
17.1		3.45	70.11	
17.2		3.50	71.11	
17.3		3.55	72.11	
17.4		3.60	73.11	
17.5		3.65	74.11	
17.6		3.70	75.11	
17.7		3.75	76.11	
17.8		3.80	77.11	
17.9		3.85	78.11	
18.0		3.90	79.11	
18.1		3.95	80.11	
18.2		4.00	81.11	
18.3		4.05	82.11	
18.4		4.10	83.11	
18.5		4.15	84.11	
18.6		4.20	85.11	
18.7		4.25	86.11	
18.8		4.30	87.11	
18.9		4.35	88.11	
19.0		4.40	89.11	
19.1		4.45	90.11	
19.2		4.50	91.11	
19.3		4.55	92.11	
19.4		4.60	93.11	
19.5		4.65	94.11	
19.6		4.70	95.11	
19.7		4.75	96.11	
19.8		4.80	97.11	
19.9		4.85	98.11	
20.0		4.90	99.11	
20.1		4.95	100.11	

5.1
1.1-2

"F-1"

[illegible]

(40)
 10
 80

TC 07-4 BS MH-23
 H1 = 468 1/51 05
 424 5034 24 P1 11

M1423	0°00'00"	1119.52	89°57'21"	270°03'34"	463
1	0 333 11'50"	509.52	89°52'38"	270°08'20"	154.12
17-1	0 306°23'34"	(155.20)	270°08'20"	270°08'20"	77
	m) 333 11'49"				
1	0 59°34'08"	350.72	89°44'15"	270°18'17"	494
1 146	0 117°08'33"	(106.80)	270°18'17"	270°18'17"	2.2.2.2.2.2
	m) 59°34'16"				
1	0 115°39'06"	605.92	90°14'58"	269°45'47"	45
117-5	0 227°16'27"	(184.81)	269°45'47"	269°45'47"	45
	m) 113°38'14"				
1	0 153°37'06"	1157.11	90°01'50"	269°59'09"	11-15-40
117-6	0 307°18'03"	(350.83)	269°59'09"	269°59'09"	32
	m) 153°39'03"				
1	0 115°51'36"	1592.18	90°18'58"	269°47'38"	11-14-5-2
117-8	0 231°43'50"	(403.42)	269°47'38"	269°47'38"	453
	m) 115°51'29"				

120
- 2 72° 15' 1-3 BS 017-4

120 1.31 1.45 42

421 0.054 1.1 1.11.41

17-4 080'00" (192.30) 29'49.45 1.53
1592.11 270'11.17

1) 200'23.30" 113.92 91'44.31 82
2) 240'47.00
3) 300'23.30" (34.12) 268'39.05 82
11.13.51

Sample

11/11/57
H. H. H. H.
P. H.

5.3
H = 4.96 + 152.122

FS 4.54 S.D. 2.1 1.14414

1	124° 58' 50"	615.28	70° 10'	111
2	49° 57' 16"	(189.55)	21° 12' 27"	43
3	144° 58' 38"			
4	198° 34' 36"	651.52	70° 53' 32"	144.75
5	17° 09' 12"	(118.12)	19° 22' 38"	32
6	181° 34' 51"			
7	180° 11' 30"	584.83	70° 50' 47"	144.61
8	0° 22' 48"	(178.24)		
9	182° 11' 24"			
10	190° 46' 34"	615.97	90° 40' 00"	
11	144° 52' 40"	615.28	10° 42' 17"	145.61
12	31° 32' 50"	(187.35)	23° 11' 30"	51
13	190° 16' 25"			
14	187° 06' 12"	579.61	91° 06' 12"	146.51
15	14° 12' 18"	(176.48)	26° 54' 45"	02
16	187° 6' 7"		11° 13'	
17	183° 07' 18"	640.21	90° 50' 22"	144.18
18	6° 14' 50"	(195.33)	26° 10' 20"	
19	183° 07' 35"		10° 4' 5"	43

10/1
 10/1
 10/1

Test well, top 2" PVC casing

1114-23

400 150 32

179

121

156 83

230

121 (52 12)

400

1114-23

5412

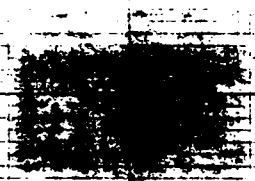
5318

400

4830

4039
 4000
 39

5412
 3348
 2064



$$H = 49, \quad K = 27$$

FS	+E+	S Dist	Zt-	P. HeqW E/bw
----	-----	--------	-----	--------------

FAF-10 0°00'00" 787.8 26.11.80 (240.16) 33.56.06 21 (11.15)

12	1	57.43	58.1	(57.02)	74	157.72
13	2	55.42	55.1	55.1	75	157.72
14	3	55.42	55.1	55.1	76	157.72
15	4	55.42	55.1	55.1	77	157.72
16	5	55.42	55.1	55.1	78	157.72
17	6	55.42	55.1	55.1	79	157.72
18	7	55.42	55.1	55.1	80	157.72
19	8	55.42	55.1	55.1	81	157.72
20	9	55.42	55.1	55.1	82	157.72
21	10	55.42	55.1	55.1	83	157.72
22	11	55.42	55.1	55.1	84	157.72
23	12	55.42	55.1	55.1	85	157.72
24	13	55.42	55.1	55.1	86	157.72
25	14	55.42	55.1	55.1	87	157.72
26	15	55.42	55.1	55.1	88	157.72
27	16	55.42	55.1	55.1	89	157.72
28	17	55.42	55.1	55.1	90	157.72
29	18	55.42	55.1	55.1	91	157.72
30	19	55.42	55.1	55.1	92	157.72
31	20	55.42	55.1	55.1	93	157.72
32	21	55.42	55.1	55.1	94	157.72
33	22	55.42	55.1	55.1	95	157.72
34	23	55.42	55.1	55.1	96	157.72
35	24	55.42	55.1	55.1	97	157.72
36	25	55.42	55.1	55.1	98	157.72
37	26	55.42	55.1	55.1	99	157.72
38	27	55.42	55.1	55.1	100	157.72
39	28	55.42	55.1	55.1	101	157.72
40	29	55.42	55.1	55.1	102	157.72
41	30	55.42	55.1	55.1	103	157.72
42	31	55.42	55.1	55.1	104	157.72
43	32	55.42	55.1	55.1	105	157.72
44	33	55.42	55.1	55.1	106	157.72
45	34	55.42	55.1	55.1	107	157.72
46	35	55.42	55.1	55.1	108	157.72
47	36	55.42	55.1	55.1	109	157.72
48	37	55.42	55.1	55.1	110	157.72
49	38	55.42	55.1	55.1	111	157.72
50	39	55.42	55.1	55.1	112	157.72
51	40	55.42	55.1	55.1	113	157.72
52	41	55.42	55.1	55.1	114	157.72
53	42	55.42	55.1	55.1	115	157.72
54	43	55.42	55.1	55.1	116	157.72
55	44	55.42	55.1	55.1	117	157.72
56	45	55.42	55.1	55.1	118	157.72
57	46	55.42	55.1	55.1	119	157.72
58	47	55.42	55.1	55.1	120	157.72
59	48	55.42	55.1	55.1	121	157.72
60	49	55.42	55.1	55.1	122	157.72
61	50	55.42	55.1	55.1	123	157.72
62	51	55.42	55.1	55.1	124	157.72
63	52	55.42	55.1	55.1	125	157.72
64	53	55.42	55.1	55.1	126	157.72
65	54	55.42	55.1	55.1	127	157.72
66	55	55.42	55.1	55.1	128	157.72

10
House
Rear

2
N-2A BS N-1B
A R S Dist Z L

11-1B 0°00'00" 142°33' 90°10'22"
(287°22') 269°50'0"

142°40'38" 694°42' 90°22'53"
21 205°21'35" (208°42') 269°37'44"
TP# IS-A 142°40'48"
at nail

N-2 TP# IS-A BS N-2A"

FS 4R4 S.Dist 2 L
1 298°25'34" 80°45' 92°44'53"
IS-5 238°51'00" (24°58') 287°15'53"
24 24°25'20"

25 171°11'46" 431°8' 89°54'38"
IS-6 22°33'54" (134°03') 270°06'04"
191°11'26"

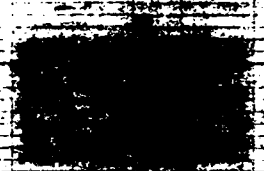
(54)

Howard
Pen

3" Brass Cup

test well, top 2" PVC casing

test well, top 2" PVC casing



4-15-10

Elc

1

2A

14-5

15-6

2A

22366

22187

22337

22265

22461

22347

723

305

247

724

689

477

455

426

579

701

241

568

284

11-11

11-12

21576

21459

21072

22156

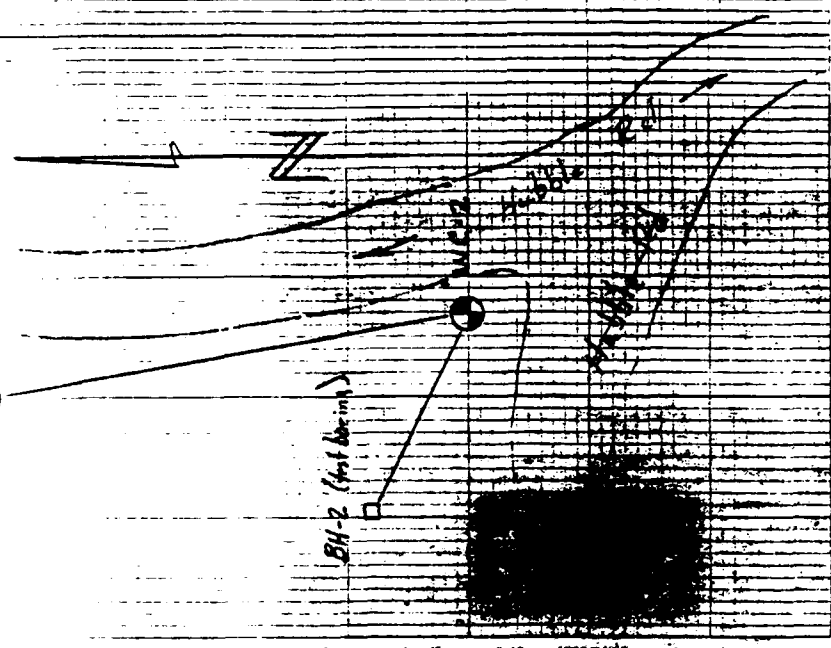
250

WC-2" BS N-6
H1 = 3' 25" + 251' 25"

FS 424 5.0st 2 ± Flight Etc.

11-6" 0' 00' 00" 330' 20" 26' 18' 40" 6' 4"
16 311' 41' 20" 27' 42" 90' 1' 15" 6' 24' 32"
FH-2 2 263' 25" 18" (2' 03") 27' 1' 15" 6' 24' 32"
Landing 311' 41' 24"

"N-6"



CE
Date
Time
Elev

CE 11011 24.02" 19 31

KE N11A BS N-12A

H1 = 445' + 275'

FS 401 S Dist 24 11011

" 11-12A	0°00'00"	881	701		
277	216°31'38"	45	45	45	273
278	216°31'38"	45	45	45	273
" 11-12B	0°00'00"	881	701		
279	216°31'38"	45	45	45	273
280	216°31'38"	45	45	45	273
" 11-12C	0°00'00"	881	701		
281	216°31'38"	45	45	45	273
282	216°31'38"	45	45	45	273
" 11-12D	0°00'00"	881	701		
283	216°31'38"	45	45	45	273
284	216°31'38"	45	45	45	273
" 11-12E	0°00'00"	881	701		
285	216°31'38"	45	45	45	273
286	216°31'38"	45	45	45	273
" 11-12F	0°00'00"	881	701		
287	216°31'38"	45	45	45	273
288	216°31'38"	45	45	45	273
" 11-12G	0°00'00"	881	701		
289	216°31'38"	45	45	45	273
290	216°31'38"	45	45	45	273
" 11-12H	0°00'00"	881	701		
291	216°31'38"	45	45	45	273
292	216°31'38"	45	45	45	273
" 11-12I	0°00'00"	881	701		
293	216°31'38"	45	45	45	273
294	216°31'38"	45	45	45	273
" 11-12J	0°00'00"	881	701		
295	216°31'38"	45	45	45	273
296	216°31'38"	45	45	45	273
" 11-12K	0°00'00"	881	701		
297	216°31'38"	45	45	45	273
298	216°31'38"	45	45	45	273
" 11-12L	0°00'00"	881	701		
299	216°31'38"	45	45	45	273
300	216°31'38"	45	45	45	273

KE N11A BS N-11A

H1 = 533' + 274'

FS 401 S Dist 24 11011

" 11-11A	0°00'00"	881	701		
277	216°31'38"	45	45	45	273
278	216°31'38"	45	45	45	273
" 11-11B	0°00'00"	881	701		
279	216°31'38"	45	45	45	273
280	216°31'38"	45	45	45	273
" 11-11C	0°00'00"	881	701		
281	216°31'38"	45	45	45	273
282	216°31'38"	45	45	45	273
" 11-11D	0°00'00"	881	701		
283	216°31'38"	45	45	45	273
284	216°31'38"	45	45	45	273
" 11-11E	0°00'00"	881	701		
285	216°31'38"	45	45	45	273
286	216°31'38"	45	45	45	273
" 11-11F	0°00'00"	881	701		
287	216°31'38"	45	45	45	273
288	216°31'38"	45	45	45	273
" 11-11G	0°00'00"	881	701		
289	216°31'38"	45	45	45	273
290	216°31'38"	45	45	45	273
" 11-11H	0°00'00"	881	701		
291	216°31'38"	45	45	45	273
292	216°31'38"	45	45	45	273
" 11-11I	0°00'00"	881	701		
293	216°31'38"	45	45	45	273
294	216°31'38"	45	45	45	273
" 11-11J	0°00'00"	881	701		
295	216°31'38"	45	45	45	273
296	216°31'38"	45	45	45	273
" 11-11K	0°00'00"	881	701		
297	216°31'38"	45	45	45	273
298	216°31'38"	45	45	45	273
" 11-11L	0°00'00"	881	701		
299	216°31'38"	45	45	45	273
300	216°31'38"	45	45	45	273

(51)

44

HI = 422 + 275 38

Handwritten notes and symbols in the top left corner.

Dist 24

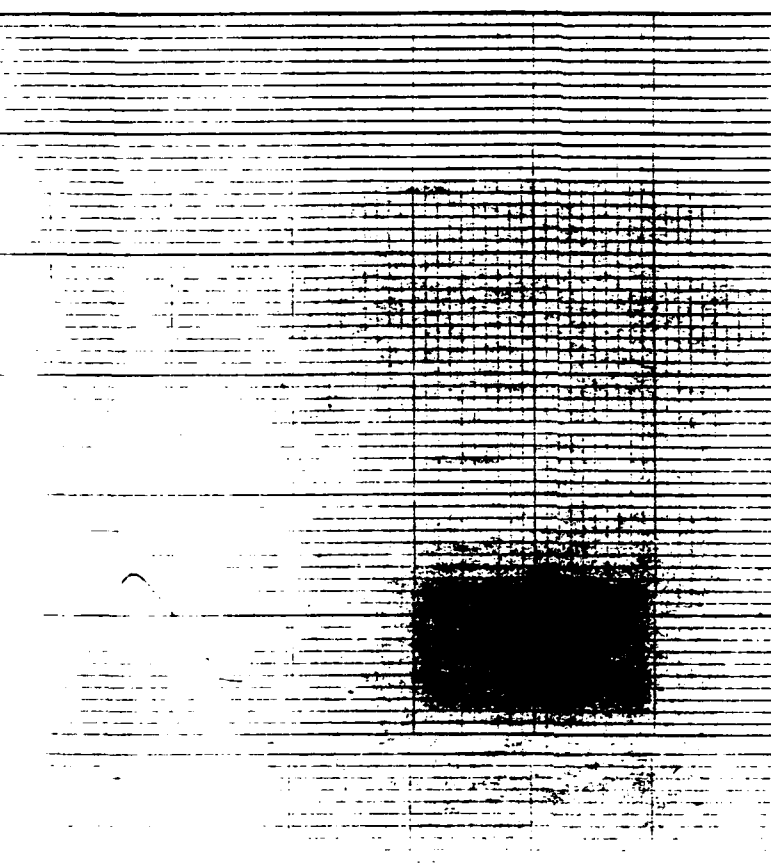
V-8 0°00'00" 5'11"44 84°38'06" 270°20'00"

1-4 1359'20'03" 39732 91°02'12" 5 024
01354'40'03" (121°23) 365°3'43"
m) 357'20'02" m) 11°1'15"

T-C "BN-3A BS "N-9"
HI = 514

V-9 0°00'00" 39732 m) 21°01'00" 405
84°01'35" 270°54'12"

1-5 0 236'48'17" 464 81°31'20" 467
(142°25) 270°29'13"
m) 26°40'27" 89°31'07"



7 @ BH3-B 05 BH3-A

HI = 496

8000 2000 = 4

10 BH3A 11 00'00" 466.00 90'33"03

26'27'12"

11'10'00"

126 149'15"30 698.10 88'15"22 425

1) 200'27'00" (212.72) 21'32.4"

2) 347'31"02 21'32.4"

3) 107'15"31 21'32.4"

7 @ BH3-C BS BH3-B

HI = 515

11 BH3B 11 00'00" 698.10 91'41'13"

268'19'10"

91'42'57"

127 1P BH3D 11 182'21'55" 206.02 81'04'22"

1) 444'05" (600.25) 270'56'34"

2) 182'22'03 270'56'34"

11/11/51
K.L.

T @ BH-10 BS BH-3-C
 HI = 510
 FS RRT SPRT Z.A P. Height
 " BH-3-C 0° 0' 00" 664 22 90° 33' 05" 5 00
 11 BH-3-E 173° 54' 33" 644 22 71° 18' 41" 4 75
 128
 11 BH-3-E 173° 54' 33" 644 22 71° 18' 41" 4 75
 11 BH-3-E 173° 54' 33" 644 22 71° 18' 41" 4 75
 11 BH-3-E 173° 54' 33" 644 22 71° 18' 41" 4 75

T @ BH-3-E BS BH-3-D
 HI = 502

11 BH-3-D 0° 0' 00" 609 22 88° 45' 13" 4 91
 231
 BH-3 1) 87° 10' 38" 11 22 101° 22' 30" 0 22
 12) 174° 21' 10" (3 32) 258° 38' 34" 0 22
 13) 224° 15' 38" 11 22 101° 22' 30" 0 22
 14) 97° 10' 35" 11 22 101° 22' 30" 0 22

ANCH-88-02

Anchor the Knot

WATERPROOF

Seaford Book

2/10/61

WO#88-046

INDEX Book ANCH-88-02

5-23 BH-5

3-5 Horiz tie to BH-4

Horiz tie to BH-5

7-8 Vert ties to BH-4 & BH-5

9-12 Vert ties for SPSA site;
SPS-8, SPS-10, SPS-20;

check SPS-2; SPS-1

13 Vert tie to BH-3

14-15 Horiz; Vert to PT-1; PT-2; PT-3

16-19 " " NSZ-1; NSZ-2; D13-1;

D13-2; D13-3; D13-4

20-22 Horiz ties to D3-1; D3-2; D3-3
and vert tie to D13-3

23-25 Horiz; Vert ties SP110 SITE

26-27 " " IS-1; IS-2

28-29 " " IS-3

30-31 " " IS-4

32-33 " " D3-4

34 Vert ties to D3-1; D3-2

35-36 Horiz; Vert ties to BH-1

37 Vert ties to D16 site

38 Check Elevs @ SPS; SPSA site

10-14-88
11:00 AM
1310

25
21
K @ J-23 BS J-22
HI = 421

FS	Δ Rt	S. DIST.	2	4	1	3	5
J-22	0° 0' 00"	1349.8	90° 16' 35"	N/A			
12.4			26° 43' 50"				
TI 1114-A	35° 35' 58"	302.62	11° 41' 15"				
2)	51° 12' 12"	(92.240)	26° 37' 54"	5.00			
3)	25° 36' 06"						
TI 1115-A	153° 36' 38"	188.16	85° 34' 33"	0.21			
2)	57° 13' 32"	(57.833)	271° 33' 18"				
3)	153° 36' 46"						

10-14-88
Hundo
1240

π @ BH4-A BS "J23"

J FS X RT S. Dist 2 d. F. Height

J33 0 00'00" 302.51 88°43'43" 414

130
11th BH4B
1) 234°01'52" 665.22 86°45'38" 472
2) 108°03'38" (302.24) 273°14'52"
3) 234°01'49" 122°45'23"

π @ BH4B BS BH4A

TP # BH4A 0°00'00" 665.24 93°17'57" 494
HI = 592
266°42'54"
3) 125°11'31"

131
TP # BH4C 171°05'48" 420.14 84°48'40" 475
~~171°05'48"~~ (128.053) 270°12'08"
2) 342°11'28"
3) 171°05'39" 44"

10-14-98
H. H. H.
B. H.

π @ BH4-C BS #BH4-B

HI = 506

4.24 S. Dist 4.2 P. 11.1

11-14-98 0° 0' 00" 420.4 4.25

40.15.30
269.74.32

11-14-98 1) 138° 04' 17" 486.23 88° 26' 33" 4.85
2) 276° 08' 55" (148.22) 11° 34' 13" 4.85
3) 138° 04' 38"

π @ BH4-D BS BH4-C

HI = 505

11-14-98 0° 0' 00" 486.2 4.91

41.38.04
268.23.20
11.11.30

11-14-98 1) 139° 24' 38" 529.24 90° 52' 25"
2) 278° 48' 22" (161.23) 269° 03' 18" 0.21
3) 139° 24' 38" 41.11.30 11° 34' 13"

-0.33 to top 2"
PVC rising

BH-5

TP BH-SA BS "J-23"

H1 = 4.9
 4.24 5.024 2.4 P Height

J-25 000.00 148.36 92.5842 381
 267.0217

1) 278.00.28" 567.2 92.40.05"
 2) 236.00.30" (173.22) 267.00.53"
 3) 298.00.15" 173.21.22" 497

TP BH-SA BS TP BH-SA

H1 = 5.02
 4.24 5.024 2.4 P Height

TP BH-SA 000.00 567.2 92.23.53 4.2
 272.36.46

1) 203.36.07" 106.16 91.36.20"
 BH-5 4) 419.16.16" (32.52) 268.24.32 0.21
 2) 203.36.08" 11) 91.35.54" 268.24.32
 2nd well 10.504

10-17-87
 11-1-87
 11-1-87

12.92

-0.8 to 700 2.30

BH-5 & BH-4

Sta	+	H1	-	Elev
J-23	305	264.54		261.11
	023	261.63	344	261.11
	033	253.98	798	255.53
	380	244.22	790	246.51
	441	249.51	414	245.03
	728	255.53	132	246.51
	1068	265.86	350	265.12
J-23	334	264.33	485	261.31 (220.24)
11" BH 4A	776	260.78	111	259.32
	913	267.52	258	252.41
	988	277.06	045	261.65

test well, top 2" PVC casing

10/27/58
16 June
Bm

[illegible]

Sta	+	HI	-	Elev	19.720
11.4.19			(6.21)		19.720
11.4.19	6.17	242.85	7.65	249.42	19.720
	10.48	252.65	0.60	253.25	19.720
	10.15	261.92	0.80	262.72	19.720
	8.60	261.64	0.80	262.44	19.720
11.13	4.33	270.51	5.49	275.90	19.720
	3.44	269.25	5.11	274.39	19.720
11.15.02	4.20	270.22	3.73	273.92	19.720
	8.49	277.24	1.41	278.65	19.720
	5.67	281.26	1.65	282.91	19.720
11.15.01	0.55	280.52	1.21	281.73	19.720
	0.60	271.07	10.01	281.67	19.720
	2.85	266.57	3.35	269.92	19.720
11.15.01			6.11	253.76	19.720

top of outside casing } test well
top of 2" PVC casing } 2150.19

top 2" PVC casing

top 2" PVC casing

See Page 33 & 37 "ARCH-88-01"

10-17-00
Hines
Ben

Sta	+	HI	-	ELVD	
777 "SPS"	168	261.54	10.27	254.86	
	303	253.98	(3.98)	210.75	
SPS-08					top Chr. outside casing } test well
250			4.19	249.79	top 2" PVC casing
SPS-08	110	250.89	9.03	241.86	
	220	244.06	(3.97)		
SPS-10					top Chr. outside casing } test well
245			8.12	235.14	top 2" PVC casing
SPS-10	0.45	235.99	1.54	226.43	
	127	227.70	9.16	218.54	
	219	221.53	(2.11)		
SPS-20			2.44	219.09	top Chr. outside casing }
249	354	222.63	0.10		top 2" PVC casing
SPS-20	1113	233.16	0.30	232.86	
	1049	243.35	0.35	243.00	
	1001	253.07			

12

MIT-8
Hwy 81

Elev

72

235

H1

26110

+

1350

44

See Page 3, Book "Hwy-88-01"

122 25900 (25900)

5311 58"

10-17-88
Hawaii
Bar

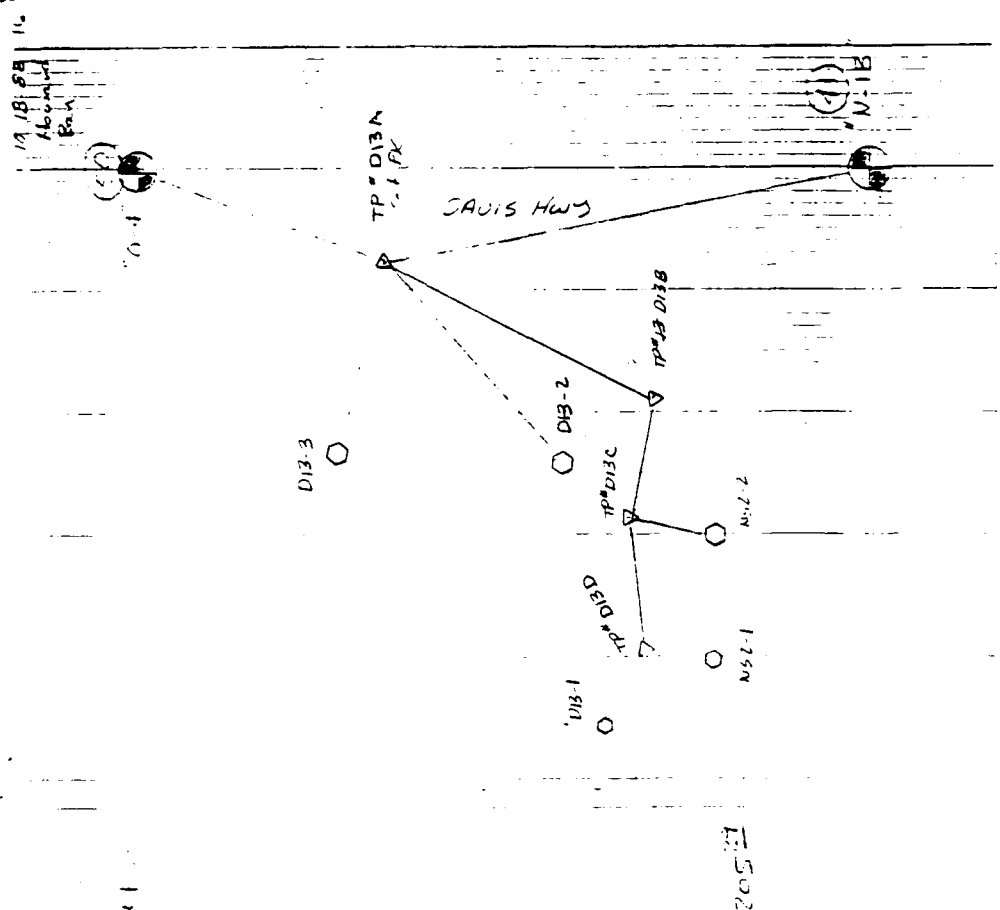
Range Tests			
Te	MB-137	BS	MB-136
FS	X84	S. Dat	Z +
MB-136	00000"	731.98	89'56'34"
			227 270 04'30"
1	123 07'53"	647.2	90'25'08"
PT-1	4 246 15'52"	(197.26)	249'35'50"
	2) 123 07'56"		
	1 122 36'38"	659.97	90'24'33"
PT-3	2 244 52'50"	(201.154)	269'36'15"
	2) 122 26'25"		
	1 119 50'30"	716.55	90'22'53"
PT-4	2 239 41'08"	(218.482)	269'37'18"
	2) 119 50'34"		

10-17-59
Howell
Bair

Kump Tests

5k	+	M4		Elev	
"MB-137"	4.8	181.95	7.1	176.5	
12	5.04	175.68	2.51	176.5	Top 2" PVC casing
1-4	2.88		1.1	176.5	Top 2" PVC casing
1-3	2.88	178.11	1.1	176.5	Top 4" PVC casing
PT-1	2.03	178.52	1.1	176.5	
TP	2.15	178.94	4.3	176.5	
"MC-137"	2.29	181.15	4.61	176.5	

135°	BS	0-4" (FABC)	
H/I = 5.11	+ 20.5	11	
484	5.054	24	Height
0-4"	0°00'00"	1267.04	100' 01.25"
		(386.222)	269'39'43"
11-15	174°12'56"	(1090.511)	89°48'14"
	378°25'43"	3578.00	270'12'46"
	174°12'52"		27'47'14"
143-3	295°58'53"	434.28	90°06'58"
	231°59'52"	(132.812)	269'54'11"
	275°58'56"		10'00'00"
D13-2	225°11'28"	731.35	89°45'38"
	90°23'42"	(222.114)	270'15'30"
	225°11'21"		10'00'00"
113-4	274°13'00"	1032.20	88°49'03"
	182°26'16"	(314.11)	271°12'00"
	274°13'08"		10'00'00"
113-5	198°12'58"	683.58	89°57'28"
	15°35'43"	(208.321)	270'05'52"
	188°12'52"		10'00'00"



TP D13B 85 TP D13A

4 2 1 5.0.1.1 2 4

1) 201'13"00" 463.78 89°39'15"
2) 162°25'45" (141.42) 270°21'41"
3) 201'12'58" (141.42) 270°21'41"

TP D13C 85 TP D13B

1) 95°56'00" 78.33 91°01'59"
2) 187°52'04" (23.83) 268°54'13"
3) 93°56'03" (141.42) 270°21'41"
4) 159°04'27" 78.33 89°40'43"
5) 318°08'44" (239.42) 270°21'41"
6) 159°04'27" (141.42) 270°21'41"

TP D13D 85 TP D13C

1) 84°10'33" 146.88 92°00'00"
2) 165°20'48" (50.865) 268°01'00"
3) 84°10'24" (141.42) 270°21'41"
4) 213°22'30" 283.86 89°39'30"
5) 66°45'00" (86.52) 270°21'41"
6) 203°22'30" (141.42) 270°21'41"

10 10 80
14 10 10
B-1

	+	H'	-	Elev	
3-4	650	21252	107	146.05	
	461	21354	321		
113-3	669	20401	189	201.5	top 2" PVC test well casing
	300	21151	335		
113-2	563	21355	205	210.5	top 2" PVC test well casing
	210	21314	230	110.70	" " " "
113-2-2	207	21283	507		" " " "
	619	21309	411		
113-1	753	21725	591		top 2" PVC test well casing
	669	21603	310		" " " "
113-1	341	21826	771		" " " "
	300	21441	611		
	340	21110	620		
	274	20772	559		
113-1-2A	529	20142	351		

(1)

10.18.00
10.18.00
10.18.00

Elev

Sta + MI

432	205	584	720	795
439	206	72	720	795
444	203	0%	720	795

"0-4"

D-3

(27)

XC MB-116 BS TP#D3-A

5 X RA 5.011 Z 4

1) 259'30.00" 225.43 ✓ 80°50'18"
 2) 159'05.40" 275°11'00"
 3) 259'37.50" 12°44'39"

XC TP#D3-A BS MB-116

FS X RA 5.011 Z 4

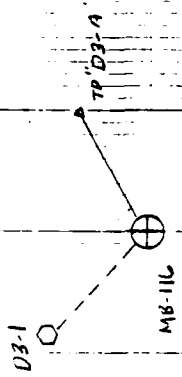
1) 165'20.23" 354.48 90°57'34"
 2) 330'40.28" (108°06') 269'34.53"
 3) 165'20.14" 90°52'51"

MB-116 0°20'00" 116.35 90°25'52"
 (35.522) 269'34.53"

XC TP#D3-B BS TP#D3-A

1) 196'40.08" 309.48 90°04'51"
 2) 353'20.14" (94°02') 269'56"
 3) 196'40.01" 90°01'11"

checked dist 11.4-82



110-21003
12-12-84

TP 03-D 03-D 03-D

FS # 24 5-014

03-D 1 227 40.33 44.52

2 25 21.36 (19.61)

3 227 40.43

TP 03-D 4 17 58.50 179.22

5 251 51.18 (40.44)

6 171 58.58

TP 03-D 03-D 03-D

1 115 33.45 230.65 90° 43' 50"

2 350 47.04 (190.21) 31.917 14

3 75 33.32 10 43 11

TP 03-D 03-D 03-D

1 204° 45' 10" 238.22 10 14 11

2 48° 10' 26" 7.41 20.9 46 33

3 204° 05' 13" 10 14 11

24
10-1-1944
H. J. ...
(100)

50 7/10

148
1 @ 10' x 10' HS-4"

8.000

135H

153 41
(4K 211)

277 45
(84546)

220' 34' 16"
81' 09' 40"
220' 34' 20"

11 133' 41' 43"
2) 207' 23' 18"
3) 133' 41' 39"

91' 55' 04"
268' 05' 53"
11) 91' 54' 37"

IS-1 IS-4

(15)
N 51° 40' 00" W 51.4'

(14)

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

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N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

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N 51° 40' 00" W 51.4'

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N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

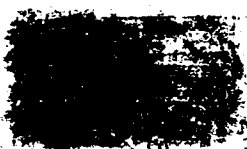
N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

N 51° 40' 00" W 51.4'

1919 88
1920 11
1921 11
1922 11

IS-1	IS-2	IS-1	IS-2	IS-1	IS-2	IS-1	IS-2	IS-1	IS-2
123	529	19390	19451	19686	19449	19673	19457	19673	19457
123	529	19390	19451	19686	19449	19673	19457	19673	19457
123	529	19390	19451	19686	19449	19673	19457	19673	19457
123	529	19390	19451	19686	19449	19673	19457	19673	19457
123	529	19390	19451	19686	19449	19673	19457	19673	19457
123	529	19390	19451	19686	19449	19673	19457	19673	19457
123	529	19390	19451	19686	19449	19673	19457	19673	19457
123	529	19390	19451	19686	19449	19673	19457	19673	19457
123	529	19390	19451	19686	19449	19673	19457	19673	19457



1920

1921

1922

1923

1924

1925

1926

1927

1928

1929

1930

1931

1932

1933

1934

1935

4519 24
 1600000
 8.7

(20) π "HS-19" BS "HS-21"
 FS 4 R1 5.0.11 24

1/5-21 12° 00' 00" 599.85 29' 45" 25"
 (182 126) 270° 5' 42"
 150 103' 17" 52" 457.48 90° 20' 37"
 TP# IS-B 206 35 24 (129.32) 267° 40' 42"
 1. p.k. 103 17 42 m) 10 11' 52"

π "TP# IS-B BS "HS-19"
 "HS-19" 0° 00' 00" 457.01 89° 15' 54"
 303 51' 30' 50" 367.93 89° 18' 35"
 IS-3 103° 01' 52" (111 122) 200° 18' 37"
 m) 51° 30' 56" n) 89° 17' 54"

IS-3

Sta

+

MI

-

Elev

HS-19

5.25

208.85

3

607

6.46

209.19

HS-19

131



50
12-19-89
K. A. A. A.
B. A.

7-5-7

22

五

23



70

54

45-30

TC-4
104

IS-9

1871

卷之四

365

(三)

1879

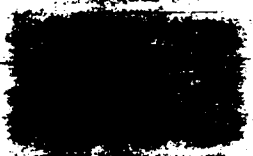
(३८) किं

15

test well, top 2" PVC

[illegible]

TC 0-1
 H1 500 + 209 65
 0000 1992 70'14"33"



151
 D3-Y 1) 146 09 17 558 25 89'44"33"
 2) 12'14"50 (120129) 270'16"33"
 3) 146 09 25 1) 89'43"52"

TC D3-Y 85 23 "0-1"
 H1 = 503
 4 24
 0-1 0000
 558 25 190 30 33" 469
 (170 34) 269'40"12"

152
 D3-Z
 275'03"33" 196'35" 90'02"33"
 190'07"12" (538 25) 269'56"43" 469
 225'03"36" 11) 11'01"11"

152
TP # D3-2 85 n D3-Y

H1 = 500

TP # D3-Y	484	5.034	Z	85
1766 36	1766 36	9000.02	270°21.02"	12
(588 288)	(588 288)	270°21.02"	270°21.02"	15
270°39.54	524.42	87°34.57	270°23.50	15
116	270°40.03	(160 453)	270°23.50	15
116	270°40.03	(160 453)	270°23.50	15



15

U.S. -	H1.	Elev
512	218 74	21 11
195	212 74	11 11
158	212 74	5 14
430	212 65	4 03
577	213 10	5 24
630	215 24	1 24
1180	225 42	4 00
150	225 58	1 24
		11 25

"MB-116"

"1-2
test well"

"MB-116"

"1-1
test well"

"MB-116"

top 3" Brass Cap

top 2" PVC test well casing

top Brass Cap

top 2" PVC test well casing

34
10-20-83
H. 11.1
B. 11

BH-1
153
T @ BH-1-A BS "N-1B"

4 R S. DIST 82

10-1B 0°00'00" 28225
(186 04)
91 270
11) 50
15 BH-1 155°57'29" 18102
(551 4)
91 270
11) 50
15 BH-1 155°57'29" 18102
(551 4)
91 270
11) 50
15 BH-1 155°57'29" 18102
(551 4)
91 270
11) 50

(41)
T @ N-1B BS N-2A

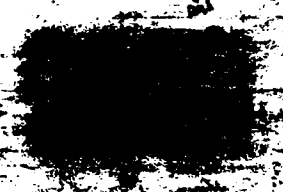
N 2A 0°00'00" 28225
(186 04)
91 270
11) 50
15 BH-1-A 93°02'26" 28225
(186 04)
91 270
11) 50
15 BH-1-A 93°02'26" 28225
(186 04)
91 270
11) 50

1) 93°02'02"
2) 186°04'10"
3) 93°04'05" ✓

35
10.80.93
14m
Bm

10-20-88
H. L. B. 1
Bar

5/2	24-1	21	219.76	247.2	0.12	21.1	21.1	5" Brass Cap Man.
N 18"	17	50.5	224.73	224.73	4.4	21.1	21.1	
	68	68	224.73	224.73	3.7	21.1	21.1	
BH-1 test well	90.4	90.4	224.73	224.73	1.72	21.1	21.1	top 2" PVC test well casing
	10.7	10.7	224.73	224.73	9.6	21.1	21.1	
	31.5	31.5	224.73	224.73	5.0	21.1	21.1	
	40.9	40.9	224.73	224.73	9.5	21.1	21.1	
"N 18"	45.6	45.6	219.68	219.68	1.75	21.1	21.1	3" Brass Cap Man.



27

11-88

Wile Site

6-11
11-9

17.

2/2

11-9

208 100 40

33-1-1

11

730
18741

378

$$\begin{array}{r} 013 \\ \hline 279 \end{array} \begin{array}{r} 23 \\ \hline 279 \end{array}$$

390

278 25

151

11A

五十一

305-27847

 π_L

1032 28168

140

8244

756 6779

26

02

373 78253

7

11-36

1/11/88
H. H. H.

SP5A-15
+
H1.

51a

P4"B"

155 26773

SP5A-15
230
P5A-15

1475
1522

26619



SP5-02

131

26603

26552

Top 2" PVC Casings

245
P5-11

46

2623

246
SP5-12

65

2603

247
SP5-13

324

23443

IRP STAGE 3 RI/FS

ELMENDORF AFB, AK

APPENDIX F

CHAIN-OF-CUSTODY FORMS



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611, Facsimile: 303/431-7171

Attn: Jean Zimmerman

CHAIN OF CUSTODY

No. 1202

SAMPLE SAFE™ CONDITIONS

1. Packed by: P Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B & V Woodward-Clyde
Sampling Site SP-4 / Equipment Blank
Team Leader Robin Hamlet (B & V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/16/88		ACB SP-4	Aqueous	3	8020	
8/16/88		EB 8/16/88	Aqueous	2	418.1	B = Breakage ↓
8/16/88			Aqueous	2	8270	
8/16/88			Aqueous	3	8020	
8/16/88			Aqueous	1	169.1	
8/16/88		0687-NG-010 GN-88-0001R	Aqueous	1	6010, 7060, 7421, 7470, 7740	
8/16/88		0687-NG-010 GN-88-0001DR	Aqueous	1	6010, 7060, 7421, 7470, 7740	
8/16/88		0687-NG-011 GN-88-0001R	Aqueous	1	6010, 7060, 7421, 7470, 7740	
8/16/88		0687-NG-014 GN-88-0001R	Aqueous	1	6010, 7060, 7421, 7470, 7740	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/16/88 Time 0825
Received by: (signed) PH Spatz Date 8/16/88 Time 0825

SHIPPING DETAILS

Delivered to Shipper by: P Spatz
Method of Shipment: Fed Ex Airbill # 5657351602
Received for Lab: B & V Signed: PH Date/Time 8/16/88
Enseco Project No. 1278

White and Pink Copies to Lab

Yellow to Sampler

SS (W)

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V / Woodward-Clyde

Sampling Site 15-S

Team Leader Robin Hamlet (B & V)

CHAIN OF CUSTODY

No. 1204

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice.
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/17/88		CL87-N6-03.7 GN-88-0003	Aqueous	3	✓ 3010	
8/17/88			Aqueous	3	3015	
8/17/88			Aqueous	3	✓ 3020	
8/17/88			Aqueous	3	418.1	B = Breakage
8/17/88			Aqueous	2	✓ 3270	↓
8/17/88			Aqueous	2	✓ 3030	
8/17/88			Aqueous	1	160.1 / E300	
8/17/88			Aqueous	2	6010/7000/7421/7470/7740	✓ Total & Discontinued "B" Reservoir (11)
8/17/88			Aqueous	1	9010	
8/17/88		TRIP BLANK	Aqueous	1	3010	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sam Ben Date 8/18/88 Time 0800
 Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex Airbill # 5657357613
 Received for Lab: RNA Signed: PH Date/Time 8/19/88
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Yellow to Sampler

SS-1001



Enseco - Rocky Mountain Analytical

4955 Yarrow Street

Arvada, Colorado 80002

303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

CHAIN OF CUSTODY

No. 1203

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B.V. Woodward - Clyde
Sampling Site SP-2/b & SP-4
Team Leader Robin Hamlet (B.V.)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/16/88		0687-NG-055 GN-88-0003	Aqueous	2	418.1	B = Breakage ↓
8/16/88		↓	Aqueous	2	8270	
8/16/88		↓	Aqueous	1	4160.1	
8/16/88		↓	Aqueous	3	8020	
8/16/88		0687-NG-064 GN-88-0003	Aqueous	2	418.1	B = Breakage ↓
8/16/88		↓	Aqueous	2	8270	
8/16/88		↓	Aqueous	3	8020	
8/16/88		Trip Blank	Aqueous	1	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Paul B. Spatz Date 8/16/88 Time 0820
Received by: (signed) Paul B. Spatz
3

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed Ex Airbill # 5657357402
Received for Lab: BNT Signed Stb Date/Time 8/18/88
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SS 001



Enseco - Rocky Mountain Analytical

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303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V Woodward-Clyde

Sampling Site IS-6

Team Leader Robin Hamlet (B & V)

CHAIN OF CUSTODY

No. 1205

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/17/88		0627-N6-03B GN-88-0003	Aqueous	3	8010	
8/18/88				3	8015	
8/17/88				3	8020	
8/17/88				2	418.1	B = Breakage
8/17/88				2	8270	
8/17/88				2	8030	
8/17/88				1	160.1/E300	
8/17/88				1	9010	
8/17/88				2	600/1000/442/1110/1110	Total & Dissolved "4D" hrs based on flow

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) San Ben Date 8/18/88 Time 0805
Received by: (signed) P. Spatz
1. San Ben
2. P. Spatz
3. _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex. Airbill # 5657357413
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Enseco Project No. 850

White and Pink Copies to Lab

Yellow to Sampler

SS 001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch
 Project Elmendorf
 Sampling Co. B&V/ Woodward-Clyde
 Sampling Site 15-7
 Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

No. 1206

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/17/88		0687-N6-039 GN-88-0003	Aqueous	3	8010	
8/17/88				3	8015	
8/17/88				3	8020	
8/17/88				1	160.1/E300	
8/17/88				MS 2	8080	B = Breakage
8/17/88				2	8270	↓
8/17/88				2	418.1	
8/17/88				1	9010	
8/17/88				2	6010/1000/1111/1110/1110	Total & Dissolved "40" has been filled

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/18/88 Time 0810
 1. PH Spatz
 2. PH Spatz
 3. _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex. Airbill # 5657357613
 Received for Lab: RMT Signed: PH Date/Time 8/18/88
 Enseco Project No. SSC

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Sean Zimmerman

Enseco Client Black & Veatch
 Project Elmendorf
 Sampling Co. B & V / Woodward - Clyde
 Sampling Site 15-8
 Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

No. 1207

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/17/88		0687-N6-040 6N-88-0003	Aqueous	3	18010	
8/17/88				3	8015	
8/17/88				3	18020	
8/17/88				1	160.1/E300	
8/17/88				2	1418.1	B = Birefringence
8/17/88				2	8270	↓
8/17/88				2	18080	
8/17/88				1	9010	
8/17/88				2	6010/2060/7421/7170/7740	Total & Dissolved HD has been filtered

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/18/88 Time 0815
 1. SimBee
 2. PH Spatz
 3. _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Airbill # 5657357635
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SS (01)

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Attn: Jean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V Woodward-Clyde

Sampling Site SP 7110

Team Leader Robin Hamlet (B & V)

CHAIN OF CUSTODY

SAMPLE SAFE" CONDITIONS

No. 1

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed in Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/15/88		0687-NG-085 GN-88-0003	Aqueous	2	418.1	B = Breakage
8/15/88		↓	Aqueous	1	160.1	
8/15/88		↓	Aqueous	3	8020	
8/15/88		0687-NG-084 GN-88-0003	Aqueous	2	418.1	B = Breakage
8/15/88		↓	Aqueous	1	160.1	
8/15/88		↓	Aqueous	3	8020	
8/15/88		0687-NG-086 GN-88-0003	Aqueous	2	418.1	B = Breakage
8/15/88		↓	Aqueous	1	160.1	
8/15/88		↓	Aqueous	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) P. Spatz Date 8/16/88 Time 0815

Received by: (signed) P. Spatz

3

SHIPPING DETAILS

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Attn: Joan Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B&V/Woodward-Clyde

Sampling Site SP 7/10

Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

No. 1711

SAMPLE SAFE" CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 8/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/15/88		0687-NG-087 GN-88-0003	Aqueous	2	418.1	B = Breakage
8/15/88		↓	Aqueous	1	160.1	
8/15/88		↓	Aqueous	3	8020	
8/15/88		0687-NG-088 GN-88-0001	Aqueous	2	418.1	B = Breakage
8/15/88		↓	Aqueous	1	160.1	
8/15/88		↓	Aqueous	3	8020	
8/15/88		0687-NG-089 GN-88-0001	Aqueous	2	418.1	B = Breakage
8/15/88		↓	Aqueous	1	160.1	
8/15/88		↓	Aqueous	3	8020	
8/15/88		ACB - SP 7/10	Aqueous	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) P. Spatz Date 8/16/88 Time 0812
 Received by: (signed) P. Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Airbill # 5657301511
 Received for Lab: BNA Signed: SA Date/Time 8/16/88
 Enseco Project No. 1711

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SS UNIT

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4955 Yarrow Street
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303/421-6611 Facsimile: 303/431-7171

Attn: Tara Zimmerman

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B&V Woodward-Clyde
Sampling Site D-5/D-13
Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/15/88		0687-NG-006 GN-88-0001B	Aqueous	1	6010, 7060, 7421, 7470, 7740	P: Packed
8/15/88		0687-NG-008 GN-88-0001B	Aqueous	1	6010, 7060, 7421, 7470, 7740	"
8/15/88		0687-NG-016 GN-88-0003B	Aqueous	1	6010, 7060, 7421, 7470, 7740	"
8/15/88		EB 8/15/88	Aqueous	2	418.1	B: Broken
8/15/88		↓	Aqueous	1	160.1	
8/15/88			Aqueous	3	8020	
8/15/88		Trip Blank W-084	Aqueous	1	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) San Ben Date 8/16/88 Time 0912
Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed Ex Airbill # 565132
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Arvada, Colorado 80002
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Attn: Jean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B&V / Woodward-Clyde

Sampling Site IS-2

Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

No. 1211

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/17/88		0687-N6-034 GN-XX-0003	Aqueous	3	8010	
8/17/88				3	8015	
8/17/88				3	8020	
8/17/88				2	418.1	BC = Breakage
8/17/88				2	8270	
8/17/88				2	8080	
8/17/88				1	9010	
8/17/88				1	160.1/E300	
8/17/88				2	600/700/742/747/7740	Total & Dissolved "40" has been filtered

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sam Ben Date 8/14/88 Time 0825
 Received by: (signed) P. Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Airbill # 5657351635
 Received for Lab: B&V Signed: 8/17/88 Date/Time 8:57
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SS 0011

450

Enseco - Rocky Mountain Analytical

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Arvada, Colorado 80002
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Attn: Jean Zimmerman

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 1212

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B & V / Woodward-Clyde
Sampling Site IS-8
Team Leader Robin Hamlet (B & V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/17/88		0687-N6-040 6N-28-0003D	Aqueous	3	8010	011
8/17/88				3	8015	
8/17/88				3	8020	
8/17/88				1	160.1/E300	
8/17/88				2	418.1	B: Breakage
8/17/88				2	8270	↓
8/17/88				2	8080	
8/17/88				1	9010	
8/17/88				2	6019/1060/7421/7470/7740	Total & Dissolved 40' has been filled

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SM Ben Date 8/18/88 Time 0820
Received by: (signed) PH Spatz
1 SM Ben
2 PH Spatz
3 _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex. Airbill # 5657357624
Received for Lab: Ans Signed: PH Date/Time 8/11/88
Enseco Project No. 550

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V/NCC

Sampling Site D-15 PMS D-13

Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

No. 171

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/9/88		0687-N6-015 EN-38-0003	Water	3	8010	
8/9/88			Water	3	8010	MS
8/9/88			Water	3	8010	MSD
8/9/88			Water	3	8020	
8/9/88			Water	3	8020	MS
8/9/88			Water	3	8020	MSD
8/9/88			Water	2	8270	1
8/9/88			Water	2	8270	MS
8/9/88			Water	2	8270	MSD
8/9/88			Water	2	418.1	BE Breakage

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Spitz Date 8/10/88 Time 9:00
 Received by: (signed) Spitz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex Airbill # 1071901166
 Received for Lab: Rmad Signed: H8007 1240 Date/Time 8/11/88
 Enseco Project No. _____

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V/HCC

Sampling Site D-5

Team Leader Edin Hamlet (B & V)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/9/88		0687-N6-008 GN-88-0001	Water	3	8010	
8/9/88			Water	3	8020	
8/9/88			Water	2	8270	B= Breakage
8/9/88			Water	2	418.1	↓
8/9/88			Water	1	160.1, E300	
8/9/88			Water	2	6010, 7060, 7424, 7470, 7770	Total & Dissolved
8/9/88		0687-N6-005 GN-88-0001	Water	3	8010	
8/9/88			Water	3	8020	
8/9/88			Water	2	8270	B= Breakage
8/9/88			Water	2	418.1	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Garber Date 8/9/88 Time 3:30p
 Received by: (signed) Ralph Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex. Airbill # 7071901213
 Received for Lab: Bma & Signed: B. W. G. G. Date/Time: 8/11/88
 Enseco Project No. 1240

#36

Enesco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 1215

SAMPLE SAFE™ CONDITIONS

Enesco Order Number 303/4317171
 Project Enesco

Attn: J. Sommerman

Enesco Client Black & Veatch
 Project Frederick
 Sampling Co. B & V/WCC
 Sampling Site D-13
 Team Leader Frederick Hamlet (B & V)

1. Packed by: P. Spatz Seal # _____
 2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
 3. Condition of Contents: Packed w/ Blue Ice
 4. Sealed for Shipping by: P. Spatz
 5. Initial Contents Temp.: _____ °C Seal # _____
 6. Sampling Status: Done ☒ Continuing Until Mid-Sept
 7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
 8. Contents Temperature Upon Receipt by Lab: _____ °C
 9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/1/88		6687-N6-017 GN-88-0003	Water	1	160.1, E300	
			Water	2	418.1	B: Breakage
			Water	2	8270	↓
			Water	2	6010, 7060, 7424, 7470	Total & Dissolved
			Water	3	8010	
			Water	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Received by (signed): P. Spatz Date 8/1/88 Time 9:05

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Airbill # 7071901981
 Received for Lab: AWA Signed: AWA Date/Time 8/6/88
 Enesco Project No. 934

White and Pink Copies to Lab

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SS 001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B&V/WSC
Sampling Site D-5/D-7
Team Leader Edwin Hamlet (B&V)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 1216

1. Packed by: P. Spate Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spate
5. Initial Contents Temp: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/9/88		0687-N6-005 GN-88-0001	Water	2	7740 6010, 7060, 7421, 7470	Total & Dissolved
8/9/88		0687-N6-006 GN-88-0004	Water	1	1601, E300	
8/9/88		0687-N6-013 GN-88-0001	Water	3	8010	
8/9/88			Water	3	8020	
8/9/88			Water	2	8270	Bz Breakage
8/9/88			Water	2	418.1	J
8/9/88			Water	1	1601, E300	
8/9/88			Water	2	6010, 7060, 7421, 7470	Total & Dissolved
8/9/88		ASB-D-5	Water	3	8010	
8/9/88			Water	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SWB Date 8/10/88 Time 9:10
Received by: (signed) PH Spate
1. SWB
2. PH Spate
3. _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spate
Method of Shipment: Fed Ex Airbill # 7071901115
Received for Lab: Hma & Signed: B. M. G. 1 Date/Time: _____
Enseco Project No. 4480 1340

#36

Enesco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 1217

SAMPLE SAFE™ CONDITIONS

- 1. Packed by: P. Spatz Seal # _____
- 2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
- 3. Condition of Contents: Packed w/ Blue Ice
- 4. Sealed for Shipping by: P. Spatz
- 5. Initial Contents Temp.: _____ °C Seal # _____
- 6. Sampling Status: Done ☒ Continuing Until Mid-Sept
- 7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
- 8. Contents Temperature Upon Receipt by Lab: _____ °C
- 9. Condition of Contents: _____

Altitude: 2000m

Enesco Client: Black & Veatch
Project: Elmerford
Sampling Co: PAV/LLC
Sampling Site: D-13
Team Leader: Robin Hemlet (B.A.V.)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
6/1	11:00	CA127-NIS-016 GN-XR-0003	Water	1	1601, E300	
6/1	11:00		Water	2	418.1	B = Breakage
6/1	11:00		Water	2	8270	↓
6/1	11:00		Water	2	6010, 7060, 7121, 7479	7740 (Total & Dissolved)
6/1	11:00		Water	3	8010	
6/1	11:00		Water	3	8020	
6/1	11:00		Water	3	8010	
6/1	11:00		Water	3	8020	
6/1	11:00		Water	3	8020	
6/1	11:00		Water	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Received by (signed): P. Spatz Date: 8/9/88 Time: 9:10

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex Airbill # 7071901981
Received for Lab: PAV Signed: PAV Date/Time: 8/10/88 9:35
Enesco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

SS

#36

Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 1218

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spate Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spate
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid-Sept.
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Client: Black & Veatch
Contact: Elmendorf
Sampling Co: BAV WCC
Sampling Date: NS-2
Sampling Location: Pacific Humboldt (BAV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
1/1/88		ACB-NS-2	Water	3	8010	100% Entry
1/1/88		↓	Water	3	8015	
1/1/88		↓	Water	3	8020	
1/1/88		↓	Water	1	160.1, E300	
1/1/88		↓	Water	2	418.1	BE Breakage
1/1/88		↓	Water	2	8270	↓
1/1/88		↓	Water	2	6010, 7060, 7424, 7470, 7740	Total & Dissolved
1/1/88		↓	Water	3	8010	
1/1/88		↓	Water	3	8015	
1/1/88		↓	Water	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Received by (signed): P. Spate Date/Time: 8/9/88 9:05

SHIPPING DETAILS

Delivered to Shipper by: P. Spate
Method of Shipment: Fed. Ex. Airbill # 7071901981
Received for Lab: BNA Signed: [Signature] Date/Time: 8/10/88 9:34
Enesco Project No.: 1167

No. 1211

Attn: I Zimmerman

Enesco Client Black & Veatch
Project Elmendorf
Sampling Co. B & V/WCC
Sampling Site _____
Team Leader Robin Hambley (B & V)

1. Packed by: P. Spate Seal # _____ No
2. Seal Intact Upon Receipt by Sampling Co.: Yes
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spate
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until mid - Sept
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____
9. Condition of Contents: _____

CUSTODY TRANSFERS PRIOR TO SHIPPING

	Relinquished by: (signed)	Received by: (signed)	Date	Time
1	San B.	PA Staff	5/9/88	9:05
2	PA Staff			
3				

SHIPPING DETAILS

Delivered to Shipper by: P. Spake
 Method of Shipment: Fed. Ex. Airbill # 7074901801
 Received for Lab: RMA Signed: 1170 Date/Time 8/19/68
 Enscoco Protect No. 9' 34

#37

Enseco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 1220

SAMPLE SAFE" CONDITIONS

Enseco Client: Black & Veatch
Project: Chasendorf
Sampling Site: B-4V/USC
Sampling Site: Equipment Break / Ambient Condition Blank
Enseco Order: Refer to Enseco

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz Seal # _____
5. Initial Contents Temp.: _____ °C
6. Sampling Status: Done _____ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
1/1/88		EB 3/3/88	Water	1	140.1, E300	
1/1/88		EB 3/3/88	Water	2	418.1	B = Breakage ↓
1/1/88		EB 3/3/88	Water	2	8270	
1/1/88		EB 3/3/88	Water	2	6010, 7060, 7424, 7470, 7740	Total & Dissolved
1/1/88		EB 3/3/88	Water	3	8010	
1/1/88		EB 3/3/88	Water	3	8015	
1/1/88		EB 3/3/88	Water	3	8020	
1/1/88		ACB 3/3/88	Water	3	8010	
1/1/88		ACB 3/3/88	Water	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Received by: (signed) P.A. Spatz

Date 8/9/88 Time 8:50

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

Method of Shipment: Fed. Ex

Received for Lab: RMA Signed: Ad

Enseco Project No. _____

Bill # 7071901970

Date/Time 8/10/88

9:34

White and Pink Copies to Lab

Yellow to Sampler

SS 001



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENIDORE AFB

Sampling Co. WOODWARD-CLYDE/BIV

Sampling Site BH

Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 1733

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPAITZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: P. SPAITZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample #	Sample Type	No. Containers	Analysis Parameters	Remarks
8/11		0687-50-122	09	SOIL	2	418.1/7470/D2216	B = BREAKAGE
		65-88-0001		SOIL	2	6010	
		0687-50-122		SOIL	1	8240	
		65-88-0001		SOIL	1	8270	
8/11		0687-50-122	11	SOIL	2	418.1/7470/D2216	B = BREAKAGE
		65-88-0001		SOIL	2	6010	
		0687-50-122		SOIL	1	8240	
		65-88-0002		SOIL	1	8270	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (Signed) [Signature] Date 8/12/88 Time 0715

Received by: (Signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: P. SPAITZ
Method of Shipment: FED EX Airbill # 5657357580
Received for Lab: RMA Signed: [Signature] Date/Time 8/13/88
Enseco Project No. 0800

White and Pink Copies to Lab

Yellow to Sampler

SS 001

TR #20

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Alameda, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

No. 2108

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☐ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK & VENTURA

Project EMENDORFF AFB

Sampling Co. WOODWARD-CLYDE (B&V)

Sampling Site SP710 & SP216

Team Leader ROBIN HAMLET (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/26		0687-50-085 65-88-0001	SOIL	2	418.1	B=BREAKAGE 01
7/26		↓	SOIL	2	8240	
7/26		0687-50-085 65-88-0002	SOIL	2	418.1	
7/26		↓	SOIL	2	8240	MS/MSD 02
7/26		0687-50-085 65-88-0002	SOIL	2	418.1	B=BREAKAGE D=DUPLICATE 03
7/26		↓	SOIL	2	8240	
7/26		0687-50-059 65-88-0001	SOIL	2	8240	B=BREAKAGE 03
7/26		↓	SOIL	1	418.1	
7/26		↓	SOIL	1	8270/D2216	
7/26		↓	SOIL	1	418.1/8270/D2216	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Requested by (signed) [Signature] Date 1/27/88 Time 0715Received by (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS

Method of Shipment: FED EX Airbill # 7071901605

Received for Lab: ANAC Signed: [Signature] Date/Time 7/28/88 8:45

Enseco Project No. 975

White and Pink Copies to Lab

Yellow to Sampler

SS-001

Enesco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Dea Zimmerman

Enesco Client Black & Veatch
 Project Elmendorf
 Sampling Co. Woodward-Clyde / B&V
 Sampling Site SP-5
 Team Leader Robin Hamlet

CHAIN OF CUSTODY

No 2111

SAMPLE SAFE™ CONDITIONS

1. Packed by: Enesco P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☐ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until mid Sep.
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/4/88		0687-N6-079	Water	3	8020	
8/4/88		8N-88-0003	Water	1	160.1	
8/4/88			Water	2	418.1	B = Break up
8/4/88		EB-SP5 8/4/88	Water	3	8020	
8/4/88			Water	1	160.1	
8/4/88			Water	2	418.1	B = Break up
8/4/88		Tip Blank - 079	Water	1	8020	
8/5/88		EB-SP5A 8/5/88	Water	3	8020	
8/5/88			Water	2	418.1	B = Break up
8/5/88			Water	1	160.1	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) San B Date 8/5/88 Time 8:45
 Received by: (signed) Dea Zimmerman Date 8/5/88 Time 8:45
Aug 11 Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. SPATZ
 Method of Shipment: FED EX Airbill # 7071901015
 Received for Lab: _____ Signed: Dea Zimmerman Date/Time 080688
 Enesco Project No. _____

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

CHAIN OF CUSTODY

No. 2112

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. Evers / P Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: L. Evers
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
 Project Elmendorf AFB
 Sampling Co. Woodward-Clyde/B&V
 Sampling Site IS-4
 Team Leader Robin Hamlet (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/3/88		0687-50-036 65-88-0001	Soil	1	418.1/1010/7471	
8/3/88			Soil	1	8270/8080/02216	
8/3/88			Soil	1	418.1/1010/7471/8270/8080	B = Breakage ↓
8/3/88			Soil	2	8240	
8/3/88		0687-50-036 65-88-0002	Soil	1	418.1/1010/7471	
8/3/88			Soil	1	8270/8080/02216	
8/3/88			Soil	2	8240	B = Breakage
8/3/88			Soil	1	418.1/1010/7471/8270/8080	B = Breakage
		* NO TELL BLANK W/ THIS SHIPMENT, per B&V request				

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sam B. Date 8/4/88 Time 0840
 Received by: (signed) Reggie H Spatz
 1. Sam B.
 2. Reggie H Spatz
 3. _____

SHIPPING DETAILS

Delivered to Shipper by: L. Evers / P Spatz
 Method of Shipment: Fed. Ex Airbill # 7071901841
 Received for Lab: _____ Signed: 1099 Date/Time _____
 Enseco Project No. _____

#27

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFB

Sampling Co. WARDWARD-CLYDE (BIV)

Sampling Site IS-1

Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 2111

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☐ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until MD-SEPT
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/2		0687-50-033 GS-BB-0001	SOIL	1	418.1/6010/7471	
8/2			SOIL	1	8270/8080/D2216	
8/2			SOIL	2	8240	B = BREAKAGE
8/2			SOIL	1	418.1/6010/7471 8270/8080/D2216	↓
8/2		0687-50-033 GS-BB-0002	SOIL	1	418.1/6010/7471	
8/2			SOIL	1	8270/8080/D2216	
8/2			SOIL	2	8240	B = BREAKAGE
8/2			SOIL	1	418.1/6010/7471 8270/8080/D2216	↓
8/2		TRIP BLANK-033		1		

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/3/88 Time 0700
 Received by: (signed) [Signature] Date 8/3/88 Time 0700

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS
 Method of Shipment: FED EX Airbill # 7071901896
 Received for Lab: PAHL Signed: RMZ/hamlet Date/Time 8/4/88 08:00
 Enseco Project No. 1075

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZWERNERMAN

Enseco Client BLACK & VEATCH
Project BLANDORF AFB
Sampling Co. WOODWARD-CLYDE / BAV
Sampling Site SP5 / SP5A
Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 2114

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEBS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: L. EWEBS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until SEPT.
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/5		0687-NG-081 GN-88-0003	AQUEOUS	2	418.1	B = BREAKAGE
8/5		↓	AQUEOUS	1	160.1	
8/5			AQUEOUS	3	8020	
8/5		ACB-SP5A	AQUEOUS	3	8020	
8/5		TRIP BLANK - OB1W	AQUEOUS	1		
8/5		0687-NG-071 GN-88-0004	AQUEOUS	2	418.1	B = BREAKAGE
8/5		↓	AQUEOUS	1	160.1	
8/5			AQUEOUS	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/6/88 Time 0730
Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWEBS
Method of Shipment: UNITED AIRLINES Airbill # 5326 9753
Received for Lab: RECEIVED Signed: [Signature] Date/Time 8/11/88
Enseco Project No. 1121

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VERTCH

Project ELMENDORF AFB

Sampling Co. WCC/BIV

Sampling Site SP5/SP5A

Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

1101 7E-# 21

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analyte Parameters	Remarks
8/5		0687-NG-078 GN-88-0003	AQUEOUS	2	418.1	B = BREAKAGE
8/5			↓	1	160.1	
8/5			↓	3	8020	
8/5		0687-NG-071 GN-88-0004	AQUEOUS	2	418.1	D = DUPLICATE B = BREAKAGE
8/5			↓	1	160.1	
8/5			↓	3	8020	
8/5		0687-NG-067 GN-88-0004	AQUEOUS	2	418.1	B = BREAKAGE
8/5			↓	1	160.1	
8/5			↓	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/6/88 Time 0730

Received by: (signed) [Signature] Date 8/6/88 Time 0730

2 [Signature]

3 [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS

Method of Shipment: UNITED AIRLINES Airbill # 5324 9753

Received for Lab: WCC Signed: [Signature] Date/Time 8/7/88

Enseco Project No. 1121

No. 2116

SAMPLE SAFE™ CONDITIONS

1. Packed by: F. EVERS Seal # _____

2. Seal Intact Upon Receipt by Sampling Co.:		Yes	No
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3. Condition of Contents: PACKED W/ BLUE ICE

8. Sampling Status:	Done	Continuing Until
		9/88

8. Sampling Status:	Done	Continuing Until
		9

7. Seal Intact Upon Receipt by Laboratory:		Yes	No
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8. Contents Temperature Upon Receipt by Lab: _____ °C

9. Condition of Contents:

[illegible]

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)	Received by: (signed)	Date	Time

Date _____ Time _____

SHIPPING DETAILS

Delivered to Shipper by:

L. Evers

1. law 7730

1. law 7730

Modeling an ecosystem

23/11/13

बाल जाति

बाल जाति

Method of Shipment:

UNITED STATES AIR FORCE

Received for Lab:

Signed: Will

3
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C
1

1811

White and Pink Couples to Lab

Yellow to Sampler

SS (N) 1

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enseco Client Black & Veatch
 Project Elavanderf
 Sampling Co. B & V / WCC
 Sampling Site SP-5
 Team Leader Robin Heanley

CHAIN OF CUSTODY

SAMPLE SAFE" CONDITIONS

1. Packed by: PH Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: PH Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/4/88		0687 - NG - 072 6N - 88 - 0003	Water	3	8020	
8/4/88		↓	Water	1	160.1	
8/4/88		0687 - NG - 077 6N - 88 - 0004	Water	2	418.1	B = Backlogs
8/4/88		↓	Water	1	160.1	
8/4/88		↓	Water	3	8020	
8/4/88		↓	Water	3	8020	115 70-2
8/4/88		↓	Water	3	8020	115 70-2
8/4/88		↓	Water	2	418.1	B = Backlogs

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/5/88 Time 9:15
 1. [Signature]
 2. [Signature]

SHIPPING DETAILS

Delivered to Shipper by: P. SPATZ
 Method of Shipment: Fed Ex Airbill # 7071901815
 Received for Lab: [Signature] Signed: [Signature] Date/Time 8/6/88 08:00
 Enseco Project No. _____

TR # 33

Enesco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZUMERMAN

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
 2. Seal Intact Upon Receipt by Sampling Co.: Yes ☐ No ☐
 3. Condition of Contents: PACKED w/ BLUE ICE
 4. Sealed for Shipping by: L. EWEERS
 5. Initial Contents Temp.: _____ °C Seal # _____
 6. Sampling Status: Done ☐ Continuing Until 9/88
 7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
 8. Contents Temperature Upon Receipt by Lab: _____ °C
 9. Condition of Contents: _____

Enesco Client BLACK & VEATCH
 Project BLANDORF AFB
 Sampling Co. WOODWARD - CLYDE / BIV
 Sampling Site NS-1 / SPI
 Team Leader ROBIN HAMLET (BIV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/6		0687-50-105 63-88-0001	SOIL	1	418.1 / 7471 / 6010 P2216 / 9010	
8/6				1	8270	
8/6				2	8240	B - BREAKAGE
8/6				1	418.1 / 7471 / 6010 P2216 / 9010 / 8270	↓
8/6		0687-50-050 63-88-0001	SOIL	2	418.1 / P2216	B - BREAKAGE
8/6				—	—	—
8/6		0687-50-050 63-88-0002	SOIL	2	418.1 / P2216	B - BREAKAGE
8/6				—	—	—

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)

Received by: (signed)

Date

Time

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERSMethod of Shipment: UNITED AIRLINES Airbill # 5326 9764Received for Lab: Emax Signed: SB 12/8/87 Date/Time

Enesco Project No

White and Pink Copies to Lab

Yellow to Sampler

11/1/88

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

No. 2119

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until MID-SEPT.
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK & VEATCH
Project EMENDORF AFB
Sampling Co. WOODWARD-CLYDE / BIV
Sampling Site D-16
Team Leader ROBIN HAMLET (BIV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/18		0687-50-021 GS-88-0001	SOIL	2	418.1/7420/D2216	B = BREAKAGE
7/18		0687-50-021 GS-88-0002	SOIL	2		
7/18		0687-50-022 GS-88-0001	SOIL	2		
7/18		0687-50-022 GS-88-0002	SOIL	2		
7/18		0687-50-023 GS-88-0001	SOIL	2		
7/18		0687-50-023 GS-88-0002	SOIL	2		
7/18		0687-50-024 GS-88-0001	SOIL	2		
7/18		0687-50-024 GS-88-0002	SOIL	2		
7/18		0687-50-022 GS-88-0001	SOIL	2		B = BREAKAGE D = DUPLICATE
7/18		0687-50-022 GS-88-0001	SOIL	2		

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/18/88 Time 1730
Received by: (signed) [Signature] Date 7/18/88 Time 1730

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS
Method of Shipment: Fed Ex Airbill # 7071901653
Received for Lab: RAV Signed: [Signature] Date/Time 7/18/88
Enseco Project No. 2119

837 TR# 15

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

No. 2120

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK & VEATCH
 Project DMENDOLF AFB
 Sampling Co. WORDWARD-CLYDE / Biv
 Sampling Site SP-15
 Team Leader ROBIN HAMLET (Biv)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/19		0687-50-100 GS-88-0001	SOIL	2	418.1/7420/D2216	B= BREAKAGE
7/19		↓	SOIL	2	8240	1
7/19		0687-50-100 GS-88-0002	SOIL	2	418.1/7420/D2216	1
7/19		↓	SOIL	2	8240	2
7/19		TRIP BLANK-100		1		2
7/19		0687-50-100 GS-88-0004	WATER	2	418.1	3
7/19		↓	WATER	1	160-1	4
7/19			WATER	3	8020	4

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/19/88 Time 1200

Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS
 Method of Shipment: FEDEX Airbill # 7071901642
 Received for Lab: ANAL Signed: [Signature] Date/Time 7/21/88
 Enseco Project No. 8'36

White and Pink Copies to Lab Yellow to Sampler

SS-001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvad, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK + VEATCH
 Project ELMENDORF AFB
 Sampling Co. WOODWARD-CLYDE / Riv
 Sampling Site SP-5
 Team Leader ROBIN HAMLET (B+V)

CHAIN OF CUSTODY

No. 2121

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until MID-SEPT.
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analyte Parameters	Remarks
7/19		0687-NG-073 GN-88-0003	WATER	2	418.1	B=BREAKAGE
7/19		↓	WATER	1	160.1	
7/19		↓	WATER	3	8020	
7/19		EQUIPMENT BLANK-SP5	WATER	2	418.1	B=BREAKAGE
7/19		↓	WATER	1	160.1	
7/19		↓	WATER	3	8020	
7/19		ACB-SP5	WATER	3	8020	

5 5 5 6 6 6 7

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/19/88 Time 1500
 Received by: (signed) [Signature] Date 7/19/88 Time 1500

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS
 Method of Shipment: FED-EX Bill # 7071901642
 Received for Lab: RNAL Signed [Signature] Date/Time 7/21/88
 Enseco Project No. 8136

9947 12 # 16

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client Black & Veatch
 Project Elmendorf AFB
 Sampling Co. Woodward Clyde/Bal
 Sampling Site SP2/LC
 Team Leader Robin Hamlet (BAL)

CHAIN OF CUSTODY

No. 2122

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EVERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No _____
3. Condition of Contents: PACKED w/ Blue Ice
4. Sealed for Shipping by: L. EVERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes No _____
8. Contents Temperature Upon Receipt by Lab: Mid-Sept °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/20		0687-50-051 66-88-0001	SOIL	2	418.1	B = BREAKAGE
7/20			SOIL	2	8240	↓
7/20			SOIL	1	8270/82216	
7/20						
7/20		TRIP BLANK - OSI	SOIL	1		

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date July 20 Time 1500
 Received by (signed) [Signature] Date July 20 Time 1500

SHIPPING DETAILS

Delivered to Shipper by: L. EVERS
 Method of Shipment: FED-EX Airbill # 7071901631
 Received for Lab: RNAL Signed: [Signature] Date/Time 7/22/88
 Enseco Project No. 857

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client

Black & Decker

Project

Elmendorf AFB

Sampling Co.

COORWARD CYDE/BAL

Sampling Site

SP216

Team Leader

Robin Hamlet (Biv)

CHAIN OF CUSTODY

No. 2173

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. ELLERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: L. ELLERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: Mid-Sgt °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/23		0687-50-057 GS-88-0001	SOIL	2	418.1	B = BREAKAGE
7/23		MS/MSD	SOIL	2	8240	↓
7/23		MS/MSD	SOIL	2	8270/D2216	
7/23		TRIP BLANK - 057		1		
7/23		0687-50-052 GS-88-0001	SOIL	2	418.1	B = BREAKAGE
7/23		↓	SOIL	2	8240	↓
7/23		↓	SOIL	1	8270/D2216	
TOTAL CONTAINERS = 12						

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed)

Received by (signed)

Date

Time

7/23/88 1100

SHIPPING DETAILS

Delivered to Shipper by: L. ELLERS

Method of Shipment: UNITED AIR LINES Airbill # 5326 9705

Received for Lab: _____

Signed: _____

Date/Time

Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

ST-009

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client: Black & Veatch
Project: Elmerdort
Sampling Co.: C. Badland Clyde / Bell
Sampling Site: SP7/b
Team Leader: Robin Hamlet

CHAIN OF CUSTODY

No. 2124

SAMPLE SAFE™ CONDITIONS

- Packed by: L. Ecker Seal # _____
- Seal Intact Upon Receipt by Sampling Co.: Yes No
- Condition of Contents: Packed w/ Blue Ice
- Sealed for Shipping by: L. Ecker
- Initial Contents Temp.: _____ °C Seal # _____
- Sampling Status: Done Continuing Until _____
- Seal Intact Upon Receipt by Laboratory: Yes No
- Contents Temperature Upon Receipt by Lab: Mid-Sept °C
- Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/25		0687-50-058 GS-88-0001	SOIL	2	418.1	B = BREAKAGE
7/25		↓	SOIL	2	8240	↓
7/25		↓	SOIL	1	8270/D2246	
7/25		0687-50-060 GS-88-0001	SOIL	2	418.1	B = BREAKAGE
7/25		↓	SOIL	2	8240	↓
7/25		↓	SOIL	1	8270/D2246	
		Chain of Custody #'s	2124/2138	SHIPPED TOGETHER	TOTAL CONTAINERS	
		= 16				

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date: 1/25/88 Time: 1620
(Received by: signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. Ecker
Method of Shipment: Fed-Ex Airbill # 7071901616
Received for Lab: [Signature] Signed: [Signature] Date/Time: 1/27/88
Enseco Project No. _____

12-11-11

DTI

Enseco - Rocky Mountain Analytical
1955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

CHAIN OF CUSTODY

Attn: JEAN Zimmerman

Enseco Client Black & Veatch

Project Elmendorf AFIS

Sampling Co. Woodward Clyde/BAL

Sampling Site IS-8

Team Leader Robin Hamlet

SAMPLE SAFE CONDITIONS

1. Packed by: L. Evers Seal # _____

2. Seal Intact Upon Receipt by Sampling Co.: Yes No

3. Condition of Contents: Packed up Blue Ice

4. Sealed for Shipping by: L. Evers

5. Initial Contents Temp: _____ °C Seal # _____

6. Sampling Status: Done Continuing Unill _____

7. Seal Intact Upon Receipt by Laboratory: Yes No

8. Contents Temperature Upon Receipt by Lab: Mid Sept °C

9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
1 7/21		0687-50-040 65-88-0001	SOIL	1	418.1/6010/7471	
1 7/21			SOIL	1	8270/8080/D2216	
1 7/21			SOIL	2	8240	B=BEAN A=V
1 7/21			SOIL	1	418.1/6010/7471 8270/8080/D2216	↓
2 7/21		0687-50-040 65-88-0002	SOIL	1	418.1/6010/7471	
2 7/21			SOIL	1	8270/8080/D2216	
2 7/21			SOIL	2	8240	B=BEAN A=V
2 7/21			SOIL	1	418.1/6010/7471 8240/8080/D2216	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) John D. Fyler Date 7/21/88 Time 1715

Received by: (signed) John D. Fyler Date 7/21/88 Time 1715

SHIPPING DETAILS

Delivered to Shipper by: L. Evers

Method of Shipment: Fed-Ex Airbill # 707161000

Received for Lab: RNAL Signed: John D. Fyler Date/Time 7/21/88

Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

8-11

7C # 11

Enseco Rocky Mountain Analytical

303/421-6611

Arvada, Colorado 80002

303/421-6611 Facsimile: 303/431-7171

Attn: Team Zimmerman

Enseco Client Black & VeatchProject Elmendorf AFBSampling Co. Woodward Clyde/B&VSampling Site SR-15Team Leader Robin Hamlet

CHAIN OF CUSTODY

No. 111

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. E. Evers Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED w/ Blank Ice
4. Sealed for Shipping by: L. E. Evers
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until Mid Sept
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/21	0687-50-101 GS-88-0001	SOIL	2	41B.1/7420/D2216	B = BREAKAGE
7/21	↓	SOIL	2	8240	
7/21	0687-50-101 GS-88-0002	SOIL	2	41B.1/7420/D2216	
7/21	↓	SOIL	2	8240	
7/21	0687-50-101 GS-88-0002	SOIL	2	41B.1/7420/D2216	B = BREAKAGE D = DUFFY
7/21	↓	SOIL	2	8240	
7/21	TRIP BLANK	Did not rec. trip blank			
	CHANGE OF CUSTODY #'s 2124 2125 SHIPPED TOGETHER.				
	TOTAL CONTAINERS = 23				

CUSTODY TRANSFER PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/21/88 Time 1215Received by: (signed) [Signature] Date 7/21/88 Time 1215

SHIPPING DETAILS

Delivered to Shipper by: L. E. Evers

Method of Shipment: FEO-EX Airbill # 7071901620

Received for Lab: R&V Signed: [Signature] Date/Time 7/21/88

Enseco Project No. 7

White and Pink Copies to Lab

Yellow to Sampler

501011

Enseco - Rocky Mountain Analytical

1905 Yarrow Street
 Avondale, Colorado 80012
 303-421-6611 Fax: 303-431-7171

Attn: Sean Zimmerman

Enseco Client Black, Veatch
 Project Elmendorf AFB
 Sampling Co. LABORATORY CLYDE/BrV
 Sampling Site SP 3/6 & SP14
 Team Leader ROBIN HAMLET

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEES Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: L. EWEES
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/14/88		0687-50-0566-88-0001	SOIL	1	418.1	
7/23		↓	SOIL	1	8270/022216	
7/23		↓	SOIL	2	8240	B = BREAKAGE
7/23		↓	SOIL	1	418.1/022216/8270	↓
7/23		TRIP BLANK 056		1		
7/23		0687-50-096	SOIL	2	8240	B = BREAKAGE
7/23		0687-50-096	SOIL	2	418.1/022216/7420	↓
7/23		0687-50-096	SOIL	2	8240	B = BREAKAGE
7/23		↓	SOIL	2	418.1/022216/7420	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Technician by (signed) [Signature] Date 7/28/88 Time 1415
 Received by (signed) D. McCormick

SHIPPING DETAILS

Delivered to Shipper by: D. McCormick
 Method of Shipment: FEDEX AIRBILL # 7071901690
 Received for Lab: RML Signed: Joseph C. Miller Date/Time: 7/28/88 1415
 Enseco Project No. _____

KNH 1027 TK# 33

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile 303/431 7171

Attn: Team Zimmerman

Enseco Client Black & Veatch
 Project Elmendorf AFB
 Sampling Co. Woodward Clyde/BAU
 Sampling Site NS-3
 Team Leader Robin Hamlet

CHAIN OF CUSTODY

No. 2129

SAMPLE SAFE" CONDITIONS

1. Packed by: L. E. WILK Sent # _____
2. Seal Intact Upon Receipt By Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed in Blue Ice
4. Sealed for Shipping by: L. E. WILK
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: 11°C °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/29		0687-SO-108 GS-88-0001	SOIL	2	418.1/02216	B-BREAKE ↓
7/29		↓	SOIL	2	8240	
7/29		0687-SO-108 GS-88-0002	SOIL	2	418.1/02216	B-BREAKE ↓
7/29		↓	SOIL	2	8240	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) D. McConick Date 7/29 Time 1500
 Received by (signed) D. McConick

SHIPPING DETAILS

Delivered to Shipper by: L. E. WILK
 Method of Shipment United Airlines Airbill # 5326 9731
 Received for Lab: PLMNC Signed L. E. WILK Date/Time 7/29
 Enseco Project No. _____

1026 TR # 29

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmer Man

Enseco Client Black & Veatch

Project Elmendorf AFB

Sampling Co. Woodward Clyde/B&V

Sampling Site NS-3

Team Leader Robin Hamlet

CHAIN OF CUSTODY

No. 2145

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EUSA Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PAKED w/ Blue Ice
4. Sealed for Shipping by: L. EUSA
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/30		0687-50-110 GS-88-0001	SOIL	2	418.1/02216	B = BREAKAGE ↓
7/30		0687-50-110 GS-88-0002	SOIL	2	8240	
7/30		0687-50-110 GS-88-0001	SOIL	2	418.1/02216	B = BREAKAGE ↓
7/30		0687-50-110 GS-88-0002	SOIL	2	8240	
7/30		0687-50-110 GS-88-0001	SOIL	2	418.1/02216	B = BREAKAGE ↓
7/30		0687-50-110 GS-88-0002	SOIL	2	8240	
7/30		TRIP BLANK				

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) D. McLarnick Date 7/30/02 Time _____
Received by: (signed) D. McLarnick Date 7/30/02 Time _____
3 _____

SHIPPING DETAILS

Delivered to Shipper by: L. EUSA
Method of Shipment: UNITED AIRLINES Airbill # 5326-9742
Received for Lab: SNAL Signed: Don 2/28/02 Date/Time 8/1/02
Enseco Project No. _____

Enseco - Rocky Mountain Analytical
4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

CHAIN OF CUSTODY

No. 21301

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. E. Evers Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Bubble
4. Sealed for Shipping by: L. E. Evers
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: Med-Sect °C
9. Condition of Contents: _____

Attn: Jon Zimmerman

Enseco Client Black & Veatch

Project Elmendorf AFB

Sampling Co. Unobscured Clyde/B&V

Sampling Site I53 / NS3

Team Leader Robin Hamlet

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/1		0607-50-109 GS-BB-0001	SOIL	2	418.1 / P2216	B = BREAKAGE
8/1		↓	SOIL	2	8240	↓
8/1		0607-50-109 GS-BB-0002	SOIL	2	418.1 / P2216	↓
8/1		↓	SOIL	2	8240	↓
8/1		0607-50-035 GS-BB-0001	SOIL	1	418.1 / 6010/7471	
8/1		↓	SOIL	1	8270 / P2216 / 8080	
8/1		↓	SOIL	2	8240	B = BREAKAGE
8/1		↓	SOIL	1	418.1 / 6010/7471 8270 / 8080 / P2216	↓

CUSTODY TRANSFER PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/1/88 Time 1600

Received by: (signed) [Signature] Date 8/3/88 Time 9:00

SHIPPING DETAILS

Delivered to Shipper by: L. E. Evers Airbill # 7071901701

Method of Shipment: FED-EX

Received for Lab: Roch Signed: [Signature] Date/Time 8/3/88

Enseco Project No. _____

1K 112

4972

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Dean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf AFB

Sampling Co. Woodward/Beal

Sampling Site P-13

Team Leader Robert Hamlet (Biv)

CHAIN OF CUSTODY

NO 213

SAMPLE SAFE™ CONDITIONS

- 1 Packed by: L. Evans Seal # _____
- 2 Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
- 3 Condition of Contents: Packed in Blue Ice
- 4 Sealed for Shipping by: L. Evans
- 5 Initial Contents Temp.: _____ °C Seal # _____
- 6 Sampling Status: Done ☐ Continuing Until Mid-Sept
- 7 Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
- 8 Contents Temperature Upon Receipt by Lab: _____ °C
- 9 Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/16		0687-50-015 65-88-0001	SOIL	2	418.1/6010/7471	B = BREAKAGE ↓
7/16		↓	SOIL	2	8240	
7/16		↓	SOIL	1	8270/D2216	
7/16		0687-50-015 65-88-0002	SOIL	2	418.1/6010/7471	B = BREAKAGE ↓
7/16		↓	SOIL	2	8240	
7/16		↓	SOIL	1	8270/D2216	
7/16		0687-50-015 65-88-0002	SOIL	2	418.1/6010/7471	D = DUPLICATE B = BREAKAGE ↓
7/16		↓	SOIL	2	8240	
7/16		↓	SOIL	1	8270/D2216	
		TRIP BLANK - 015		1		

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 7/16/88 Time 1315
Received by (signed) [Signature] Date 7/16/88 Time 1315

SHIPPING DETAILS

Delivered to Shipper by: L. Evans
Method of Shipment: UNITED AIR LINES Airbill # 5326 7-12,
Received for Lab: RH41 Signed KHF Date/Time 7-12-88
Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Dean Zimmerman

Enseco Client Black & Veatch
 Project Elmendorf AFB
 Sampling Co. Woodward Clyde/Bel
 Sampling Site D-17
 Team Leader Robin Hamlet

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. Euxas Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packet w/ Blue Ice
4. Sealed for Shipping by: L. Euxas
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: Mid-Sept
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/16		0687-50-027 CS-88-0002	SOIL	2	418.1/6010/7471	B = BREAKAGE ↓
7/16		↓	SOIL	2	8240	
7/16		↓	SOIL	1	8270/8080/D2216	
7/16		0687-50-030 CS-88-0001	SOIL	2	418.1/6010/7471	B = BREAKAGE ↓
7/16		↓	SOIL	2	8270/8080/D2216	
7/16		↓	SOIL	1	8240	
7/16		0687-50-030 CS-88-0002	SOIL	2	418.1/6010/7471	B = BREAKAGE ↓
7/16		↓	SOIL	2	8270/8080/D2216	
7/16		↓	SOIL	1	8240	
7/16		TRIP Blank 027		1		

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 7/16/84 Time 1615
 Received by (signed) [Signature] Date 7/16/84 Time 1615

SHIPPING DETAILS

Delivered to Shipper by: L. Euxas
 Method of Shipment: UNITED AIRLINES Airbill # 5526 916813
 Received for Lab: PMAL Signed: LHE Date/Time 7/22/84
 Enseco Project No. _____

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client Black & Veatch
Project Elmendorf AFB
Sampling Co. Woodward Clyde/Bell
Sampling Site D-17
Team Leader Robin Hamlet

CHAIN OF CUSTODY

No. 0111

SAMPLE "SAFE" CONDITIONS

1. Packed by: L. E. E. E. Seal #
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: L. E. E. E.
5. Initial Contents Temp.: °C Seal #
6. Sampling Status: Done Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: °C
9. Condition of Contents:

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/16		0687-SO-024 CS-88-0001	SOIL	2	418.1/6010/7471	B= BREAK A J
7/16			SOIL	2	8240	↓
7/16			SOIL	1	8270/8080/D2216	
7/16		0687-SO-024 CS-88-0002	SOIL	2	418.1/6010/7471	B= BREAK A J
7/16			SOIL	2	8240	↓
7/16			SOIL	1	8270/8080/D2216	
7/16		0687-SO-027 CS-88-0001	SOIL	2	418.1/6010/7471	B= BREAK A J
7/16			SOIL	2	8240	↓
7/16			SOIL	1	8270/8080/D2216	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) John D. Jensen Date 7/16/88 Time 1615

Received by: (signed) Date Time

SHIPPING DETAILS

Delivered to Shipper by: L. E. E. E.
Method of Shipment: UNITED AIR Airbill # 5326 16.83
Received for Lab: DMAL Signed: KMF Date/Time 7/21/88
Enseco Project No.

TOTAL CONTAINERS = 31

White and Pink Copies to Lab

Yellow to Sampler

SS-1001

re #14

1211

1117

Inseco - Rocky Mountain Analytical

1000 Yankee Street
Avondale, Colorado 80012
303 421 6611 Facsimile 303 431 7171

Attn: Mr. J. J. LAMM

Enseco Client BLACK & VEATCH

Project LAWRENCE AFB

Sampling Co. WARDWARD CLYDE / BIV

Sampling Site MS-2

Team Leader Paul Hamlet

CHAIN OF CUSTODY

No. 2136

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEBS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEBS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	IMA#	Sample Type	No. Containers	Analysis Parameters	Remarks
7/15		0087-50-106 0088-50-001	04	SOIL	2	8240	MS + MSD B = BREAKAGE
7/15			04	SOIL	2	8270 / 8080	MS + MSD B = BREAKAGE
7/15			04	SOIL	1	418.1 / 7471 / 6010 / DZ216 / 9010	MS + MSD B = BREAKAGE
7/15			04	SOIL	1	418.1 / 7471 / 6010 / DZ216 9010	MS + MSD B = BREAKAGE
7/15		0087-50-106 0088-50-002	05	SOIL	2	8240	B = BREAKAGE
7/15			05	SOIL	1	8270 / 8080	B = BREAKAGE
7/15			05	SOIL	1	418.1 / 7471 / 6010 / DZ216 / 9010	
7/15			05	SOIL	1	418.1 / 7471 / 6010 / DZ216 8270 / 8080	B = BREAKAGE

CUSTODY TRANSFERS PRIOR TO SHIPPING

Received by (signed) [Signature] Date 7/15/88 Time 1300

SHIPPING DETAILS

Delivered to Shipper by: L. EWEBS
Method of Shipment: UNITED AIR LINES Airbill # 5326 9661
Received for Lab: Enseco Signed: Joseph A. Mas Date/Time 7/17/88
Enseco Project No. _____

No. 2139

SAMPLE SAFE™ CONDITIONS

3. Condition of Contents: Packed w/ Blue Ice

4. Sealed for Shipping by: Les Kvef

1. Initial Comments: _____

7. Seat Intact Upon Receipt by Laboratory:		Yes	No
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8. Contents Temperature Upon Receipt by Lab:

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/25		0687-50-053 GS-88-0001	SOIL	2	418.1	B = BREAKPOINT
7/25		↓	SOIL	2	8240	↓
7/25		↓	SOIL	1	D2216/8270	
7/25		TRIP BLANK - 053		1		
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SHIPPING DETAILS

Delivered to Shipper by:

2. EUR 10

Method of Shipment: Fed-Ex

Albion 7071901616

Received for Lab: RMAL

Date/Time 7/2, 7:56

Enseco Project No.

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Joan Zimmerman

Enseco Client Black & Veatch
Project Elmendorf AFB
Sampling Co. Abodulward Clyde/Bul
Sampling Site IS-7
Team Leader Robin Hamlet

CHAIN OF CUSTODY

No. 2140

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. E. Evers Seal # _____
2. Seal intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed in Blue Ice
4. Sealed for Shipping by: L. E. Evers
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until Mid-Sept
7. Seal intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/22		0687-50-039 GS-88-0001	SOIL	1	418.1/6010/7471	
7/22			SOIL	1	8270/8080/82216	
7/22			SOIL	2	8240	B = BREAKAGE
7/22			SOIL	1	8270/8080/6010 418.1/7471/82216	↓
7/22		0687-50-039 GS-88-0002	SOIL	1	418.1/6010/7471	
7/22			SOIL	1	8270/8080/82216	
7/22			SOIL	2	8240	B = BREAKAGE
7/22			SOIL	1	8270/8080/6010 418.1/7471/82216	↓
7/22		TRIP BLANK-039		1		

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/22/88 Time 1600
Received by: (signed) [Signature] Date 7/22/88 Time 1600

SHIPPING DETAILS

Delivered to Shipper by: L. E. Evers
Method of Shipment: UNITED AIRLINES Airbill # 5326 9694
Received for Lab: PMEL Signed: [Signature] Date/Time 7/25/88
Enseco Project No. _____

UNIVERSITY OF ARIZONA

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. Evers Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: D. McCoemick
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK + VEATCH
Project ELLENDORE AFB
Sampling Co. WILLIAMS CLYDE CONSULTANTS
Sampling Site IS
Team Leader ROBIN HAMLET (B+V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/30		0687-50-034 GS-88-0001	SOIL	2	8240	B=BREAKAGE
				1	418.1/6010/7471	
				1	8270/8080/12216	
				1	8270/8080/418.1 6010/7471/12216	B=BREAKAGE
		0687-50-034 GS-88-0002		2	8240	B=BREAKAGE
				1	418.1/6010/7471	
				1	8270/8080/12216	
				1	8270/8080/418.1 6010/7471/12216	B=BREAKAGE

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) D. McCoemick Date 7/30/00 Time _____
Received by: (signed) D. McCoemick Date 7/30/00 Time _____
1. D. McCoemick
2. D. McCoemick
3. _____

SHIPPING DETAILS

Delivered to Shipper by: D. McCoemick
Method of Shipment: United Airlines Airbill # 53269742
Received for Lab: RMAH Signed: [Signature] Date/Time 7/30/00
Enseco Project No. _____

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830
831
832
833
834
835
836
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838
839
840
84

	Enesco Project No.	70
White and Pink Copes to Lab	Yellow to Sampler	SS DU

	Enesco Project No.	70
White and Pink Copes to Lab	Yellow to Sampler	SS DU

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

- Packed by: L. EVERS Seal # _____
- Seal Intact Upon Receipt by Sampling Co.: Yes No
- Condition of Contents: PACKED W/ BLUE ICE
- Sealed for Shipping by: L. EVERS
- Initial Contents Temp.: _____ °C Seal # _____
- Sampling Status: Done Continuing Until MID-SEPT
- Seal Intact Upon Receipt by Laboratory: Yes No
- Contents Temperature Upon Receipt by Lab: _____ °C
- Condition of Contents: _____

Enseco Client BLACK + VEATCH
 Project ELMBROOK AFB
 Sampling Co. WOODWARD-CLAYDE / BIV
 Sampling Site IS3/N53
 Team Leader ROBBI HAMLET (BIV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analyte Parameters	Remarks
8/1		0687-50-035 65-88-0002	SOIL	1	418.1/6010/7471	
8/1			SOIL	1	8270/8080/DZ216	
8/1			SOIL	2	8240	B = BREAKAGE
8/1			SOIL	1	418.1/6010/7471 8270/8080/DZ216	↓
8/1		0687-50-111 65-88-0001	SOIL	2	418.1/DZ216	B = BREAKAGE
8/1			SOIL	2	8240	↓
8/1		0687-50-111 66-88-0002	SOIL	2	418.1/DZ216	↓
8/1			SOIL	2	8240	
8/1		TRIP BLANK		1		

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/1/88 Time 1400
 Received by: (signed) [Signature] Date 8/1/88 Time 1400

SHIPPING DETAILS

Delivered to Shipper by: L. EVERS
 Method of Shipment: FED EX Airbill # 7071901701
 Received for Lab: ESD Signed: [Signature] Date/Time 8/3/88
 Enseco Project No. _____

QMH 1022 TR # 23

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH
Project ELMENDORF AFB
Sampling Co. WOODWARD-CLYDE (BIV)
Sampling Site SP14
Team Leader ROBIN HAMLET

CHAIN OF CUSTODY

No. 0141

SAMPLE SAFE™ CONDITIONS

1. Packed by L. EVERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: D. McCormick
5. Initial Contents Temp: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: Mid - Sept °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/29		0687-50-097 GS-88-0001	SOIL	2	418.1/7400/Δ2316	B = BREAKAGE B = BREAKAGE
7/29		↓	SOIL	2	8240	↓
7/29		0687-50-097 GS-88-0002	SOIL	2	418.1/7430/Δ2316	B = BREAKAGE
7/29		↓	SOIL	2	8240	↓
7/29		TRIP BLANK-097 0687-50-097		1		B = BREAKAGE
7/29		GS-88-0001	SOIL	2	418.1/7420/Δ2316	D = DUPLICATION
7/29		↓	SOIL	2	8240	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) Sam Bae Date 7/29 Time 1500
Received by (signed) D. McCormick
1 D. McCormick
2 D. McCormick

SHIPPING DETAILS

Delivered to Shipper by: D. McCormick
Method of Shipment: United Airlines Bill # 5326 9731
Received for Lab: QMHAL Signed 11/08/88 Date/Time 11/08/88
Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

TR # 20

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Avondale, Colorado 80002
 303/421 6611 Facsimile: 303/431-7171

Attn: Jean Zimmermann

Enseco Client Black & Veatch

Project Elmendorf AFB

Sampling Co. Edward Clyde / BAV

Sampling Site SP710

Team Leader Robin Hamlet

CHAIN OF CUSTODY

No. 2145

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. Ewers Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED w/ Blue Ice
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/26		0687-50-084 65-88-0001	SOIL	2	418.1 / D2216	B=BREAKAGE
7/26		↓	SOIL	2	8240	
7/26		0687-50-084 65-88-0002	SOIL	2	418.1 / D2216	
7/26		↓	SOIL	2	8240	
7/26		TRIP BLANK-084		1		
		C of C #'s 2145 & 2108	SHIPPED TOGETHER.			
		TOTAL CONTAINERS =	26			

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/27/88 Time 0715

Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. Ewers
 Method of Shipment: Fed Ex Airbill # 7071901605
 Received for Lab: RNAL Signed: [Signature] Date/Time 7/28/88
 Enseco Project No. 975 B:45

1017 TR#21

Enseco - Rocky Mountain Analytical

1900 Yarrow Street
 Avondale, Colorado 80002
 303-431-6611 Facsimile: 303-431-7171

Attn: John Zimmerman

Enseco Client Black & Veatch

Project Centimeter AFB

Sampling Co. Cherward Clyde / Ball

Sampling Site SP7/10

Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

No. 2146

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. Evers Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: L. Evers
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/27		0687-50-087 62-88-0001	SOIL	2	418.1 / D2216	B= BREAKAGE ↓
7/27		0687-50-087 62-88-0002	SOIL	2	8240	↓
7/27		0687-50-086 62-88-0001	SOIL	2	418.1 / D2216	B= BREAKAGE ↓
7/27		0687-50-086 62-88-0002	SOIL	2	8240	↓
7/27		TRIP BLANK - 086	SOIL	1	8240	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

It is requested by (signed) _____ Date _____ Time _____

Received by (signed) _____

SHIPPING DETAILS

Delivered to Shipper by: L. Evers

Method of Shipment: FED-EX

Airbill # 7071901594

Received for Lab: ENR

Signed: Joseph C. Miller

Date/Time: 7/27/88 1615

Enseco Project No. _____

White and Pink Copies to Lab

Yellow to Sampler

SS 001

Enseco - Rocky Mountain Analytical

PO Box 5000

Arvada, Colorado 80002

303 421 6611 Facsimile: 303 431 7171

Attn: John Zimmerman

Enseco Client Black & Veatch

Project Elmendorf AFB

Sampling Co Univ. of Colorado / Ball

Sampling Site SP 26

Team Leader Robert Hamlet

CHAIN OF CUSTODY

No. 2147

SAMPLE SAFE" CONDITIONS

1. Packed by: L. Ewers Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: L. Ewers
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/23		0687-SO-054 GS-88-0001	SOIL	2	418.1	B = BREAKAGE
7/23		↓	SOIL	2	8240	B = BREAKAGE
7/23		0687-SO-055 GS-88-0001	SOIL	1	8270/02216	
7/23		↓	SOIL	2	418.1	B = BREAKAGE
7/23		↓	SOIL	2	8240	↓
7/23		0687-SO-055 GS-88-0001	SOIL	1	8270/02216	
7/23		↓	SOIL	2	418.1	B = DUPLICATE B = BREAKAGE
7/23		↓	SOIL	2	8240	↓
7/23		↓	SOIL	1	8270/02216	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Repackaged by (signed) D. McBrinnick Date 7/23/88 Time 1430

Received by (signed) D. McBrinnick

SHIPPING DETAILS

Delivered to Shipper by: L. Ewers

Method of Shipment: FedEx

Airbill # 7071901690

Received for Lab: ENAL

Signed Joseph A. Mader

Date/Time 7/30/88

Enseco Project No. _____

White and Pink Copies to Lab

Yellow to Sampler

SS 001

700

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421 6611 Facsimile: 303/431 7171

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by L. EWEBS Seal #
2. Seal Intact Upon Receipt by Sampling Co.: FILE No
3. Condition of Contents: FILE
4. Sealed for Shipping by: LF
5. Initial Contents Temp: °C Seal #
6. Sampling Status: Done Controlling Until MID-DEPT
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: °C
9. Condition of Contents:

Enseco Client BLACK & VEATCH
 Project ELMENDORE AFB
 Sampling Co. BIV/WCC
 Sampling Site SP-5
 Team Leader ROBIN HAMLEY

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/6		0687-50-076	SOIL	2	418.1/D2216	B = BREAKAGE
7/6		65-88-0001	SOIL	2	8240	B = BREAKAGE
7/6		0687-50-076	SOIL	2	+18.1/D2216	"
7/6		65-88-0002	SOIL	2	8240	"
7/6		0687-50-076	SOIL	2	418.1/D2216	"
7/6		65-88-0001	SOIL	2	8240	"
7/6		0687-50-076	SOIL	2	418.1/D2216	"
7/6		65-88-0002	SOIL	2	8240	"
7/6		0687-50-076	SOIL	2	418.1/D2216	"
7/6		65-88-0001	SOIL	2	8240	"
7/6		0687-50-076	SOIL	2	418.1/D2216	"
7/6		65-88-0002	SOIL	2	8240	"
		TRIP BLANK		(1)		
				TOTAL = 16 + (1) TRIP BLANK		

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 7/6/84 Time 1514
 Received by (signed) [Signature] Date 7/7/84 Time 1430

SHIPPING DETAILS

Delivered to Shipper by: FEDERAL EXPRESS 365757705
 Method of Shipment: AIR Airbill #
 Received for Lab: REAL Signed [Signature] Date/Time 7/9/84
 Enseco Project No: 6418

White and Pink Copies to Lab Yellow to Sampler

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Aurora, Colorado 80002
 303/421 6611 Facsimile: 303/431 7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

SAMPLE SAFE" CONDITIONS

No. 2150

1. Packed by: L. EWEERS Seal #
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: °C Seal #
6. Sampling Status: Done ☒ Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: °C
9. Condition of Contents:

Enseco Client BLACK + VEATCH
 Project ELMENDORF AFB
 Sampling Co. WOODWARD-CLYDE CONSULTANTS / BV
 Sampling Site SP-5
 Team Leader ROBIN HAMLET

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/7		0687-50-074	SOIL	2	418.1 / D2216	B= BREAKAGE
7/7		65-88-0001	SOIL	2	418.1 / D2216	
7/7		0687-50-079	SOIL	2	8240	
7/7		65-88-0002	SOIL	2	8240	
7/7		0687-50-084	SOIL	2	418.1 / D2216	
7/7		65-88-0001	SOIL	2	418.1 / D2216	
7/7		0687-50-084	SOIL	2	8240	
7/7		65-88-0002	SOIL	2	8240	
7/7		0687-50-084	SOIL	2	8240	
7/7		65-88-0001	SOIL	2	8240	
		TRIP BLANK		1		

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 7/8/88 Time 1600
 Received by (signed) [Signature] Date 7/8/88 Time 0930

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS
 Method of Shipment: FED-EX Airbill #
 Received for Lab: RMAL Signed: [Signature] Date/Time 7/9/88
 Enseco Project No 2150

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: _____

CHAIN OF CUSTODY

No. 2151

SAMPLE SAFE™ CONDITIONS

1. Packed by L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp. _____ °C Seal # _____
6. Sampling Status: Done Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory: Red Paper No
8. Contents Temperature Upon Receipt by Lab: 11 °C
9. Condition of Contents: _____

Enseco Client BLACK & VEATCH
Project ELMENDORF AFB
Sampling Co. WOODWARD-CLYDE CONSULTANTS / BV
Sampling Site SP-5
Team Leader ROBIN HAMLET

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/7		0687-50-074 GS-88-0001	SOIL	2	418.1 / D2216	B = BREAKAGE
7/7		0687-50-074 GS-88-0002	SOIL	2	418.1 / D2216	
7/7		0687-50-074 GS-88-0001	SOIL	2	8240	
7/7		0687-50-074 GS-88-0002	SOIL	2	8240	
7/7		0687-50-080 GS-88-0001	SOIL	2	418.1 / D2216	
7/7		0687-50-080 GS-88-0002	SOIL	2	418.1 / D2216	
7/7		0687-50-080 GS-88-0001	SOIL	2	8240	
7/7		0687-50-080 GS-88-0002	SOIL	2	8240	
7/7		0687-50-080 GS-88-0001	SOIL	2	418.1	D = DUPLICATE DB = DUPL. BREAKAGE
7/7		0687-50-080 GS-88-0001	SOIL	2	8240	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 7/18/88 Time 1600
Received by (signed) [Signature] Date 7/18/88 Time 0730

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS
Method of Shipment: FED-EX Airbill # _____
Received for Lab: RML Signed [Signature] Date/Time 7/19/88
Enseco Project No. 8143

C&C No's 2150 & 2151 SHIPPED TOGETHER White and Pink Copies to Lab Yellow to Sampler TOTAL SAMPLE BOTTLES 30 (111P 112P 113P 114P 115P 116P 117P 118P 119P 120P)

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421 6611 Facsimile: 303/431-7171

CHAIN OF CUSTODY

No. 2152

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☐ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Attn: _____

Enseco Client BLACK & VEATCH
 Project ELMENDORF AFB
 Sampling Co. WOODWARD CLYDE / BIV
 Sampling Site SP-5
 Team Leader ROBIN HAMLET

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/8		0687-50-073 GS-88-0001	SOIL	2	418.1/D2216	B = BREAKAGE
7/8		0687-50-073 GS-88-0001	SOIL	2	8240	
7/8		0687-50-073 GS-88-0002	SOIL	2	418.1/D2216	
7/8		0687-50-073 GS-88-0002	SOIL	2	8240	
7/8		0687-50-073 GS-88-0003	SOIL	2	418.1/D2216	
7/8		0687-50-073 GS-88-0003	SOIL	2	8240	
7/8		0687-50-082 GS-88-0001	SOIL	2	418.1/D2216	
7/8		0687-50-082 GS-88-0001	SOIL	2	8240	
		TRIP BLANK		1		
		TOTAL THIS SHIPMENT		33		

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 7/8/88 Time 1700
 Received by (signed) [Signature] Date 7/8/88 Time 1700

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS 5326 9624
 Method of Shipment: UAC
 Received for Lab: EMAL Signed: [Signature] Date/Time: 7/11/88
 Enseco Project No: 7000

White and Pink Copies to Lab Yellow to Sampler

SS 001

12 # 14

50241

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: EARL ZIMMERMAN

CHAIN OF CUSTODY

Enseco Client BLACK & VEATCH
Project ELMENDORF AFB
Sampling Co. WOODWARD-CLYDE / B&V
Sampling Site D-13
Team Leader ROBIN HAMLER (B&V)

No. 2104

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/18		0687-50-017 65-88-0001	SOIL	1	418.1/6010/7471	
7/18		↓	SOIL	1	8270/02216	
7/18		↓	SOIL	2	8240	B= BREAKAGE
7/18		↓	SOIL	1	418.1/6010/7471 8270/02216	↓
7/18		0687-50-017 65-88-0002	SOIL	1	418.1/6010/7471	
7/18		↓	SOIL	1	8270/02216	
7/18		↓	SOIL	2	8240	B= BREAKAGE
7/18		↓	SOIL	1	418.1/6010/7471 8270/02216	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 7/18/88 Time 1500
(Received by (signed)) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS
Method of Shipment: FED-EX Airbill # 7074901653
Received for Lab: B&V Signed: [Signature] Date/Time 7/18/88
Enseco Project No. 517

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile

ATTN: LEAD ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AIR FORCE BASE

Sampling Co. WOODWARD-CLYDE / B+V

Sampling Site SP-5

Team Leader: ROBIN HAMLET (B4V)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 2151

1. Packed by: L. EWERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/9		0687-50-077 65-88-0001	SOIL	2	418.1 / D2216	B= BREAKAGE
7/9		0687-50-077 65-88-0001	SOIL	2	8240	
7/9		0687-50-077 65-88-0002	SOIL	2	418.1 / D2216	MS/MSO
7/9		0687-50-077 65-88-0002	SOIL	2	8240	
7/9		0687-50-077 65-88-0003	SOIL	2	418.1 / D2216	
7/9		0687-50-077 65-88-0003	SOIL	2	8240	
7/9		0687-50-072 65-88-0001	SOIL	2	418.1 / D2216	
7/9		0687-50-072 65-88-0001	SOIL	2	8240	
7/9		0687-50-072 65-88-0002	SOIL	2	418.1 / D2216	
7/9		0687-50-072 65-88-0002	SOIL	2	8240	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)	Received by: (signed)	Date	Time

Relinquished by: (signed)	Received by: (signed)	Date	Time

Relinquished by: (signed)	Received by: (signed)	Date	Time

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS 5326 9650

Method of Shipment: AIR | UAY | AIRBILL # 900550453

Revised for 1961
EMAL
HOOB
L

Received for Lab: _____ Signed: _____ Date: _____

TRIP BLANK

White and Pink Cores to Lab

Yellow to Sampler

10

10

827 72 #114

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 2157

1. Packed by: L. EWERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until MID-SEPT.
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK & VEATCH
Project ELMENDORF AFB
Sampling Co. WOODWARD-CLYDE / B&V
Sampling Site D-13
Team Leader ROBIN HAMLET (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/18		0687-50-018 63-88-0001	SOIL	1	418.1/6010/7471	
7/18			SOIL	1	8270/D2216	
7/18			SOIL	2	8240	B = BREAKAGE
7/18			SOIL	1	418.1/6010/7471 8270/D2216	↓
7/18		0687-50-018 63-88-0002	SOIL	1	418.1/6010/7471	
7/18			SOIL	1	8270/D2216	
7/18			SOIL	2	8240	B = BREAKAGE
7/18			SOIL	1	418.1/6010/7471 8270/D2216	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/18/88 Time 1300
Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS
Method of Shipment: Fed-Ex Airbill # 7071901653
Received for Lab: R. HAMLET Signed: [Signature] Date/Time 7/18/88
Enseco Project No. 611



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421 6611 Fax: 303/431 7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFB

Sampling Co. WOODWARD-CLYDE CON

Sampling Site D-17

Team Leader Robin Hamlet (BAU)

CHAIN OF CUSTODY

No. 0111

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. Ewers Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED w/ Blue Ice
4. Sealed for Shipping by: L. Ewers
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/16		0687-50-028 CS-88-0001	SOIL	2	418.1/6010/7471	B = BREAKAGE
7/16		↓	SOIL	2	8240	↓
7/16		↓	SOIL	1	8270/8080/02216	
7/16		0687-50-028 CS-88-0002	SOIL	2	418.1/6010/7471	B = BREAKAGE
7/16		↓	SOIL	2	8240	↓
7/16		↓	SOIL	1	8270/8080/02216	
		TOTAL CONTAINERS THIS SHIPMENT = 51				
		C OF C #'S 2158, 2629, 2132, 2627				

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/16/98 Time 1400

Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. Ewers

Method of Shipment: United Air Airbill # 5326 9612

Received for Lab: RNAL Signed: AHF Date/Time: _____

Enseco Project No. _____

White and Pink Copies to Lab

Yellow to Sampler

55 000

7450

Enseco - Rocky Mountain Analytical
 4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

CHAIN OF CUSTODY

No. 217(1)

SAMPLE SAFE™ CONDITIONS

1. Packed by: P Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Attn: J. Zimmerman

Enseco Client Black & Veatch
 Project Elmendorf
 Sampling Co. B & V / Woodward - Clyde
 Sampling Site Equipment Blank 8/17/88
 Team Leader Robin Hamlet (B & V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/17/88		EB 8/17/88	Aqueous	3	8010	
8/17/88				3	8015	
8/17/88				3	8020	
8/17/88				1	9010	
8/17/88				1	1601/E300	
8/17/88				2	418.1	B = Breakage
8/17/88				2	8270	
8/17/88				2	8080	
8/17/88				2	6010/7000/7440/7770	Total & Dissolved "4D" res been E. Hamlet
8/17/88		Trip Blank	Aqueous	1	8015	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SM B Date 8/16/88
 Received by: (signed) PH Spatz Date 0830
 1 SM B
 2 PH Spatz
 3 _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex. Airbill # 5657357624
 Received for Lab: RMT Signed: Ad Date/Time 8/17/88
 Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

SS 001

No. 2171

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. BAV/WCC
Sampling Site IS 1-8
Team Leader Robin Hamlet (BAV)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

[illegible]

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)	Received by: (signed)	Date	Time
<i>[Signature]</i>	<i>[Signature]</i>	8/18/88	0800

SHIPPING DETAILS

Delivered to Shipper by: P. Spate Airbill # 5657357624
Method of Shipment: Fed. Ex
Received for Lab.: BNA Signed: 8/12/88 Date/Time
Enesco Protect No. 850

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V / WCC

Sampling Site NS-2

Team Leader Robin Hamlet

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

NO.

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co. Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid Sept
7. Seal Intact Upon Receipt by Laboratory Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/4/88	★	<u>see attached</u> 0687-NS-107 GN-88-0003	Water	1	1601, E300	
8/4/88	★	0687-NS-107 GN-88-0003	Water	2	4181	B. Bradley
8/4/88	★	0687-NS-107 GN-88-0003	Water	2	6010, 7069, 7421, 7470	Total 1601
8/4/88	★		Water	3	8010	
8/4/88	★		Water	3	8015	
8/4/88	★		Water	3	8020	
8/4/88	★		Water	2	8270	B. Bradley
8/4/88	★	ACB - NS-1	Water	3	8010	
8/4/88	★		Water	3	8015	
8/4/88	★		Water	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SNB Date 8/1/88 Time 8:50
 Received by: (signed) Waghi A Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex. Airbill # 11111111
 Received for Lab: RNA Signed: gbb Date/Time: _____
 Enseco Project No. 1167

CHAIN OF CUSTODY

Attn: Jim Zingales

Enesco Client Black & Veatch
Project Feasibility

Sampling Co. B & V Boardward Cycle
Sampling Site Drill Cuttings - Base Wide
Team Leader Robin Hamlet (B & V)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Patel Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Patel
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

[illegible]

CUSTODY TRANSFERS PRIOR TO SHIPPING

	Relinquished by: (signed)	Received by: (signed)	Date	Time
1			9/18	0945
2				

SHIPPING DETAILS

Delivered to Shipper by: V. Spatz Airbill # 91655542956
Method of Shipment: Fed. Ex.
Received for Lab: Kmal signed: Joseph V. Mura Date/Time 2/25/88 08
Enasco Protect No. 1477

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: EARL ZIMMERSON

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: _____ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: _____
4. Sealed for Shipping by: _____
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: (Yes) ~~No~~
8. Contents Temperature Upon Receipt by Lab: 12° °C
9. Condition of Contents: _____

Enseco Client _____
Project _____
Sampling Co. _____
Sampling Site _____
Team Leader _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
		NOTE: RED LABELS ON JAR TOPS SIGNIFY SAMPLES WHERE WE GOT A READING ON OUR ORGANIC VAPOR INSTRUMENTS. WE ARE REQUIRED TO PACK EACH OF THESE IN PLASTIC BAGS, BUT THEY MAY BE SHIPPED W/ OTHER SAMPLES.				
					-L. EWERS SAMPLE MGR. (WZZC)	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) _____ Date _____ Time _____
Received by (signed) _____
1 _____
2 _____
3 _____

SHIPPING DETAILS

Delivered to Shipper by: _____
Method of Shipment: Airbill #
Received for Lab: ARWL Signed: [Signature] Date/Time: 7/9/88
Enseco Project No: 6147

White and Pink Copies to Lab Yellow to Sampler



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Aurora, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jason Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V Woodward-Clyde

Sampling Site IS-1

Team Leader Robin Hambley (B&V)

CHAIN OF CUSTODY

No. 2181

SAMPLE SAFE™ CONDITIONS

1. Packed by: P Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/18/88		0687-N6-041 6N-88-0001	Aqueous	3	8010	
8/18/88				3	8015	
8/18/88				3	8020	
8/18/88				2	418.1	B = Breakage
8/18/88				2	8080	
8/18/88				2	8270	
8/18/88				1	9010	
8/18/88				1	160.1/E300	
8/18/88				PH 2 2	6010/7060/7421/7470/	Total & Dissolved '40' has been filled

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) PH Spatz Date 8/18/88 Time 0655

SHIPPING DETAILS

Delivered to Shipper by: P Spatz
Method of Shipment: Fed Ex Airbill # 7071901756
Received for Lab: BNA Signed: PH Date/Time 8/18/88
Enseco Project No: 1

Enseco - Rocky Mountain Analytical

1955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

CHAIN OF CUSTODY

No. 2182

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B & V / Woodward-Clyde
Sampling Site IS-1
Team Leader Robin Hamlet (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/15/88		0681-NG-033 GA-98-0003	Aqueous	1	160.1/E300	
8/15/88				2	418.1	B = Breakage
8/15/88				1	9010	
8/15/88				2	6010/7060/1421/1479	Total & Dissolved '40' has been filled
8/15/88				3	8010	
8/15/88				3	8015	
8/15/88				3	8020	
8/15/88				2	8270	B = Breakage
8/15/88				2	8080	
8/15/88		Trip Blank	Aqueous	1	8010	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) Sam Bo Date 8/17/88 Time 0650
Received by (signed) P. Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex. Airbill # 7071901756
Received for Lab: B&V Signed: 7/88 Date/Time 8/17/88
Enseco Project No. 10140

White and Pink Copies to Lab

Yellow to Sampler

ES 001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V Woodward-Clyde

Sampling Site IS-4

Team Leader Rubin Hamlet (B & V)

CHAIN OF CUSTODY

No. 2184

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/18/88		0687-N6-036 6N-38-0003	Aqueous	3	8010	
8/18/88				3	8015	
8/18/88				3	8020	
8/18/88				2	418.1	B = Breakage
8/18/88				2	8080	
8/18/88				2	8270	
8/18/88				1	1601/E300	
8/18/88				1	9010	
8/18/88				MS 2	600/1000/7424/7470/7740	Total & Dissolved 40" has been filtered

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sam B... Date 8/24/88 Time 0710

Received by: (signed) PH Spatz

1. Sam B...

2. PH Spatz

3. _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

Method of Shipment: Fed Ex Airbill # 1071901745

Received for Lab: RNA Signed: PH Date/Time 8/20/88

Enseco Project No. 10100

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Sean Zimmerman

Enseco Client Bleck & Veatch
 Project Elmendorf
 Sampling Co. B & V / Woodward - Clyde
 Sampling Site IS-3
 Team Leader Robin Hamlet (B & V)

CHAIN OF CUSTODY

No. 2185

SAMPLE SAFE™ CONDITIONS

1. Packed by: P Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed in Blue Ice
4. Sealed for Shipping by: P Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/18/88		9687-N6-035 6N-K8-0003	Aqueous	1	160.1/E300	
8/18/88				1	9010	
8/18/88				2	6010/7020/7421/7470/7740	Total & Dissolved 40° has been filtered
8/18/88				2	418.1	B = Breakage ↓
8/18/88				2	8080	
8/18/88				2	9270	
8/18/88				3	8010	
8/18/88				3	8015	
8/18/88				3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sam Ber Date 8/19/88 Time 0710
 Received by: (signed) PH Spatz
 1 PH Spatz
 2 PH Spatz
 3 _____

SHIPPING DETAILS

Delivered to Shipper by: P Spatz
 Method of Shipment: Fed. Ex. Airbill # 7071901745
 Received for Lab: FINA Signed: PH Date/Time 8/22/88
 Enseco Project No. 10100

White and Pink Copies to Lab

Yellow to Sampler

SS-001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Sean Zimmerman

CHAIN OF CUSTODY

No. 2186

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
 Project Elmendorf
 Sampling Co. B & V / Woodward-Clyde
 Sampling Site Equipment Blank
 Team Leader Robin Hamlet (B & V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/18/88		EB 8/18/88	Aqueous	2	418.1	B-Brackage
8/18/88				2	8080	
8/18/88				2	8270	
8/18/88				3	8010	
8/18/88				3	8015	
8/18/88				3	8020	
8/18/88				1	160.1/E300	
8/18/88				1	9010	
8/18/88				2	6010/7040/7474/7470/7740	Total & Dissolved 40' has been filtered.
8/18/88		Trip Blank	Aqueous	1	4020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SAZ Date 8/19/88 Time 0800
 Received by: (signed) PH Spatz
 1 SAZ
 2 PH Spatz
 3 _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Airbill # 7071901745
 Received for Lab: RMA Signed: [Signature] Date/Time 8/19/88
 Enseco Project No. 1000

White and Pink Copies to Lab Yellow to Sampler

SS 0011

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B&V/Woodward-Clyde

Sampling Site TS-1

Team Leader Robin Hamlet (G&V)

CHAIN OF CUSTODY

No. 2187

SAMPLE SAFE™ CONDITIONS

1. Packed by: P Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/16/88		0687-NIG-CH2 GN-88-0001	Aqueous	2	418.1	B = Breakage
8/16/88				2	8080	
8/16/88				2	8270	
8/16/88				2	8080	MS
8/16/88				2	8270	MS
8/16/88				2	8080	MSD
8/16/88				2	8270	MSD
8/16/88				1	160.1/E300	
8/16/88				1	9010	
8/16/88				2	6010/7060/7121/7170/7770	total to be sealed 70" has been filled

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) San Jose Date 8/19/88 Time 0850
Received by: (signed) P.H. Spatz

SHIPPING DETAILS

Delivered to Shipper by: P Spatz
Method of Shipment: Fed Ex Airbill # 5657357676
Received for Lab: P.H. Spatz Signed: JK Date/Time 9/20/88
Enseco Project No. 2187

White and Pink Copies to Lab Yellow to Sampler

SS (N)



Enseco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 2188

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Sean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V / Woodward-Clyde

Sampling Site IS-1

Team Leader Robin Hamlet

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/14/88		17687-NG-0123 GN-38-0001	Aqueous	3	8010	
8/15/88				3	8015	
8/15/88				3	8020	
8/16/88				3	8010	ms
8/16/88				3	8015	ms
8/16/88				3	8020	ms
8/16/88				3	8010	msd
8/16/88				3	8015	msd
8/16/88				3	8020	msd
8/16/88		Trip Blank	Aqueous	1	8015	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sam B... Date 8/19/88 Time 0850
Received by: (signed) P. Spatz
1. Sam B...
2. P. Spatz
3. _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex. Airbill # 5657357646
Received for Lab: Enseco Signed: P. Spatz Date/Time 8/19/88
Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

SS 001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jason Zimmermann

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V (Woodward-Clyde)

Sampling Site Robin Hamlet (B & V)

Team Leader Robin Hamlet (B & V)

CHAIN OF CUSTODY

No. 2189

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/19/88		EB 8/19/88	Aqueous	2	418.1	B = Breakage
8/19/88				2	8270	↓
8/19/88				1	160.1/E300	
8/19/88				2	6010/7060/7121/1170/7740	Total & Dissolved 40' has been filtered
8/19/88				3	8010	
8/19/88				3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Paul D Spatz Date 8/19/88 Time 2020

Received by: (signed) P. Spatz Date 8/19/88 Time 12:00 PM

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

Method of Shipment: United Airlines Airbill # 6008 7796

Received for Lab: Elmendorf Signed: 8/19/88 Date Time 12:00 PM

Enseco Project No. 8-2288

White and Pink Copies to Lab

Yellow to Sampler

SS-001

TK# 54



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZUMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFB

Sampling Co. WOODWARD-CLYDE / B&V

Sampling Site NS1

Team Leader ROBIN HAMLET (B&V)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/6		0687-50-102 63-88-0001	SOIL	1	418.1/7471/6010 P2216/9010	
				1	8270	
				2	8240	B = BREAKAGE
				1	418.1/7471/6010 P2216/9010/8270	↓
8/6		0687-50-103 63-88-0001	SOIL	1	P2216/9010 418.1/7471/6010	
				1	8270	
				2	8240	B = BREAKAGE
				1	P2216/9010/8270 418.1/7471/6010	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 06/06/00 Time 1500

Received by: (signed) [Signature] Date 06/06/00 Time 1500

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS

Method of Shipment: UNITED AIRLINES Airbill # 5326 1764

Received for Lab: Chm Signed: 06/11/2007 Date/Time 5:00 PM

Enseco Project No. _____

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFB

Sampling Co. WOODWARD-CLYDE/B&V

Sampling Site NS-1

Team Leader ROBIN HAMLET

CHAIN OF CUSTODY

No. 2206

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/6		0687-NS-105 CN-88-0002	AQUEDUS	3	8010	
				3	8020	
				3	8015	
				2	7471/6010/7060 7421/7470	(1) 4T, (1) 40
				1	160.1/E300	(1T)
				1	9010	
				2	418.1	B = BREAKAGE
				2	8270	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/6/88 Time 1500

Received by: (signed) [Signature] Date 8/6/88 Time 1500

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS

Method of Shipment: UNITED AIRLINES Airbill # 5326 9769

Received for Lab: 8 May Signed: S. Mager Date/Time 0800 8-8-88

Enseco Project No. 1126

White and Pink Copies to Lab

Yellow to Sampler

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Avondale, Colorado 80012
 303/421 6611 Facsimile: 303/431-7171

Attn: JEAN ZAMMERMAN

Enseco Client BLACK & VEATCH

Project BLANDFORD AFB

Sampling Co. WOODWARD-CLUPE / BIV

Sampling Site NS1

Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 2207

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/6		0687-NS-104 GN-88-0002	AQUEOUS	3	8010	
				3	8015	
				3	8020	
				2	7471/6010/7060 7421/7240	(1) 4T, (1) 4D
				1	160.1/E300	(1T)
				1	9010	
				2	418.1	B-BREAKAGE
				2	8270	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 9/6/88 Time 1500
 Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS
 Method of Shipment: UNITED AIR LINES Airbill # 5326 9764
 Received for Lab: Enseco Signed: 8/27/88 Date/Time 8-28-88
 Enseco Project No. 1126

White and Pink Copies to Lab

Yellow to Sampler

SS-001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Aurora, Colorado 80012
 303/421-6611 Facsimile: 303/431-7171

Attn: BOB ZIMMERMAN

Enseco Client BLACK & VEATCH
 Project EMENDORF AFB
 Sampling Co. WOODWARD-CLUPE/BIV
 Sampling Site NS-1
 Team Leader ROBIN HAMLET

CHAIN OF CUSTODY

No. 2208

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal 9/88
6. Sampling Status: Done ☐ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
9/6		0687-106-102 EN-88-0002	AQUEOUS	3	8010	
				3	8020	
				3	8015	
				2	7470/6010/7060 7471/7740	(1) 4D, (1) 4T
				1	160.1 / E300	(1T)
				1	9010	
				2	418.1	B = BREAKAGE
				2	8270	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/6/88 Time 1500

Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS
 Method of Shipment: UNITED AIRLINES Airbill # 5326 9764
 Received for Lab: Enad Signed: B. Magr Date/Time 08-8-88 0800
 Enseco Project No. 1126

White and Pink Copies to Lab

Yellow to Sampler

SS-001

Enesco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enesco Client BLACK & VEATCH
Project BLMENDOFF AFB
Sampling Co. WOODWARD-CLYDE / BIV
Sampling Site SPI / BHL
Team Leader ROBIN HARVEY (BIV)

CHAIN OF CUSTODY

No. 2219

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp.: _____ °C Seal # 9/88
6. Sampling Status: Done ☒ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/5		0687-50-049 GS-88-0001	SOIL	2	418.1 / D2216	B = BREAKAGE
8/5		0687-50-049 GS-88-0002	SOIL	2	418.1 / D2216	B = BREAKAGE
8/5		0687-50-120 GS-88-0001	SOIL	1	418.1 / 7471 6010 / D2216	
8/5			SOIL	1	8270	
8/5			SOIL	1	418.1 / 7471 / 6010 D2216 / 8270	B = BREAKAGE
8/5			SOIL	2	8240	↓
8/5		0687-50-120 GS-88-0002	SOIL	1	418.1 / 7471 6010 / D2216	
8/5			SOIL	1	8270	
8/5			SOIL	1	418.1 / 7471 / 6010 D2216 / 8270	B = BREAKAGE
8/5			SOIL	2	8240	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/4/88 Time 0730

Received by: (signed) [Signature] Date 8/4/88 Time 0730

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS

Method of Shipment: UNITED AIRWAYS 5326 9153

Received for Lab: RNAL Signed: [Signature] Date/Time 8/4/88

Enesco Project No. 1120

White and Pink Copies to Lab Yellow to Sampler

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421 6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B&V/WR

Sampling Site SP-4

Team Leader Robin Hamlet

CHAIN OF CUSTODY

No. 10

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spate Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spate
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Final Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/4/88		0687-50-065 65-88-0001	Soil	2	418.1, 6010, 7471	B: Backlog
8/4/88		↓	Soil	2	8240	B: Backlog
8/4/88		0687-50-065 65-88-0002	Soil	1	8270, 8080, 102316	B: Backlog
8/4/88		↓	Soil	2	418.1, 6010, 7471	B: Backlog
8/4/88		↓	Soil	2	8240	B: Backlog
8/4/88		0687-50-065 65-88-0002D	Soil	1	8270, 8080, 102316	B: Backlog
8/4/88		↓	Soil	2	418.1, 6010, 7471	B: Backlog
8/4/88		↓	Soil	2	8240	B: Backlog
8/4/88		↓	Soil	1	8270, 8080, 102316	B: Backlog

CUSTODY TRANSFERS PRIOR TO SHIPPING

- Relinquished by: (signed) King H Spate Date 8/5/88 Time 9:25
- Received by: (signed) King H Spate Date 8/5/88 Time 9:25
- 3

SHIPPING DETAILS

- Delivered to Shipper by: P. Spate Airbill # 7071901733
- Method of Shipment: Fed Ex Signed King H Spate Date/Time 8/5/88 9:25
- Received for Lab: _____
- Enseco Project No. 1116

TR # 28



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf AFB

Sampling Co. Woodward - Clyde / B & V

Sampling Site SP-6 NS-3

Team Leader Robin Hemlet (B & V)

CHAIN OF CUSTODY

No. 2212

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. Ewers / P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: L. Ewers
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/3/88		0687-50-113	SOIL	2	418.1 / D2216	B = Breakage
8/3/88		65-88-0001	SOIL	2	8240	B = Breakage
8/3/88		0687-50-113	SOIL	2	418.1 / D2216	B = Breakage
8/3/88		65-88-0001	SOIL	2	8240	B = Breakage
8/3/88		0687-50-113	SOIL	2	418.1 / D2216	B = Breakage
8/3/88		65-88-0001	SOIL	2	8240	D = Duplicate
* No Trip Blank w/ this shipment, per B & V request.						

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) R. Hemlet Date 8/4/88 Time 08:40
 Received by: (signed) R. Hemlet
 2. R. Hemlet
 3. _____

SHIPPING DETAILS

Delivered to Shipper by: L. Ewers / P. Spatz
 Method of Shipment: Fed Ex
 Received for Lab: 1099
 Enseco Project No. _____
 Airbill # 7071901841
 Signed: [Signature] Date/Time 8/1

White and Pink Copies to Lab

Yellow to Sampler

SS 001

Enseco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 001

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue ke
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until mid-sept
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B&V/INCL

Sampling Site SP-13

Team Leader Robin Hamlet

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/5/88		0687-50-094 GS-88-0001	Soil	2	418.1, D2216	B = Breakage
8/5/88		0687-50-094 GS-88-0001	Soil	2	8240	B MS/MSD
8/5/88		0687-50-094 GS-88-0001	Soil	2	8270	MS/MSD
8/5/88		0687-50-094 GS-88-0001D	Soil	2	418.1	B = Breakage
8/5/88		0687-50-094 GS-88-0001D	Soil	2	8240	D = Duplicate
8/5/88		0687-50-094 GS-88-0001D	Soil	1	8270	
8/8/88		0687-50-095 GS-88-0001	Soil	2	418.1, D2216	B = Breakage
8/8/88		0687-50-095 GS-88-0001	Soil	2	8240	↓
8/8/88		0687-50-095 GS-88-0001	Soil	1	8270	

CUSTODY TRANSFERS PRIOR TO SHIPPING

1. Relinquished by: (signed) Ray H. Spatz Date 8/5/88 Time 8:30
2. Received by: (signed) Ray H. Spatz Date 8/5/88 Time 8:30
3. _____

SHIPPING DETAILS

- Delivered to Shipper by: P. Spatz
- Method of Shipment: Fed. Ex Airbill # 2011701110
- Received for Lab: RMA Signed: 11/70 Date/Time 8/5/88
- Enseco Project No. 931

White and Pink Copies to Lab

Yellow to Sampler

SS 001

Enseco - Rocky Mountain Analytical

935 Yarrow Street
 Arvada, Colorado 80002
 303-421-6611 Facsimile: 303/431-7171

Alt: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFB

Sampling Co. WOODWARD-CLYDE / BIV

Sampling Site NS1

Team Leader ROBIN HAMLET

CHAIN OF CUSTODY

No. 2214

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/6		0687-NG-103 GM-BB-0002	AQUEOUS	3	8010	
				3	8015	
				3	8020	
				2	7470/6010/7060 7421/7740	(1) 40, (1) 4T
				1	160.1/E300	
				1	9010	
				2	418.1	B = BREAKAGE
				2	8270	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Received by (signature) _____ Date _____ Time _____

Received by (signature) _____ Date _____ Time _____

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS
 Method of Shipment: UNITED AIRLINES Irbill # 5326 9764
 Received for Lab: Enseco Signed: B May 17 Date/Time 08-18-88
 Enseco Project No. 1126

White and Pink Copies to Lab

Yellow to Sampler

1K 39

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Aurora, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B&V/WCC
Sampling Site 15-5
Team Leader Robin Hamlet

CHAIN OF CUSTODY

No. 001

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. H. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until mid Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/14/88		0687-50-037 65-88-0001	Soil	1	8270, 8080, D2216	
8/17/88		-0001	Soil	1	418.1, 6010, 7471	
8/17/88		-0001B	Soil	1	418.1, 6010, 7471, 8270, 8080, D2216	B = Bending
8/17/88		-0001	Soil	2	8240	B = Bending
8/14/88		0687-50-037 65-88-0002	Soil	1	418.1, 6010, 7471	
8/17/88			Soil	1	8270, 8080, D2216	
8/17/88			Soil	1	418.1, 6010, 7471, 8270, 8080, D2216	B = Bending
8/17/88			Soil	2	8240	B = Bending

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Robin Hamlet Date 8/15/88 Time 8:50
Received by: (signed) P. Spatz
3

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: FED EX Airbill # 7071901815
Received for Lab: _____ Signed: SM. H. Hamlet Date/Time 0806 188
Enseco Project No. 1116

White and Pink Copies to Lab Yellow to Sampler

Enseco - Rocky Mountain Analytical

4935 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V/WCC

Sampling Site BH-6

Team Leader Robin Hemlet

CHAIN OF CUSTODY

No. 1116

SAMPLE SAFE™ CONDITIONS

1. Packed by: PH Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: PH Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Field - Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/4/88		0687-SO-124 65-88-0001	Soil	2 1	8270	113
8/4/88			Soil	2	8270	113
8/4/88			Soil	1	418.1, 6010, 7471, 8270, 02216	113
8/4/88			Soil	1	418.1, 6010, 7471, 8270, 02216	113
8/4/88		0687-SO-124 65-88-0002	Soil	1	8270	113
8/4/88			Soil	2	8270	113
8/4/88			Soil	1	418.1, 6010, 7471, 8270, 02216	113
8/4/88			Soil	1	418.1, 6010, 7471, 8270, 02216	113

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Philip Spatz Date 8/5/88 Time 9:05
 Received by: (signed) Philip Spatz

SHIPPING DETAILS

Delivered to Shipper by: PH Spatz
 Method of Shipment: Fed. Ex. Airbill # 7071901733
 Received for Lab: PH Spatz Signed: PH Spatz Date/Time 8/26/88
 Enseco Project No. 1116

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B&V/WCC

Sampling Site BH-1

Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

No. _____

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ blue ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid-Sep.
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/7/88		0687-50-119 65-88-0001	Soil	2	418.1, 6010, 7471, D2316	B = Black & Veatch
8/7/88		↓	Soil	2	8240	↓
8/7/88		↓	Soil	1	8270	↓
8/7/88		0687-50-119 65-88-0002	Soil	2	418.1, 6010, 7471, D2316	B = Black & Veatch
8/7/88		↓	Soil	2	8240	↓
8/7/88		↓	Soil	1	8270	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/19/88 Time 9:15
Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex Airbill # 701170115
Received for Lab: Rmaza Signed: [Signature] Date/Time: 8/20/88 12:40
Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

4+ 57

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Joan Zimmerman

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until Mid-Sept.
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. BAV & WCC
Sampling Site S-6
Team Leader Robin Hamlet (BAV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/3/88		0687-50-043 65-88-0001	Soil	2	8080, D2216	BE Breakage
8/3/88		0687-50-044 65-88-0001	Soil	2	8080, D2216	
8/3/88		0687-50-045 65-88-0001	Soil	2	8080, D2216	
8/3/88		0687-50-046 65-88-0001	Soil	2	8080, D2216	
8/3/88		0687-50-047 65-88-0001	Soil	2	8080, D2216	
8/3/88		0687-50-048 65-88-0001	Soil	2	8080, D2216	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/18/88 Time 8:30
Received by: (signed) [Signature] Date 8/18/88 Time 8:30

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex. Airbill # 7071901910
Received for Lab: BAV Signed: [Signature] Date/Time 8/18/88
Enseco Project No. 1170

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch
 Project Elmendorf
 Sampling Co. BAV/WCS
 Sampling Site SC-456
 Team Leader Robin Hamlet

CHAIN OF CUSTODY

No. 2224

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid-Sept.
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/3/88		0687-SO-114 GS-88-0001	Soil	2	418.1, 7471, 6010, D2246	B = Brecklage
8/3/88		0687-SO-114 GS-88-0001	Soil	2	8270	B = Brecklage
8/3/88		0687-SO-114 GS-88-0001	Soil	1	8270	
8/3/88		0687-NS-114 GN-88-0002	Water	3	8010	
8/3/88		0687-NS-114 GN-88-0002	Water	3	8020	
8/3/88		0687-NS-114 GN-88-0002	Water	2	8270	B = Brecklage
8/3/88		0687-NS-114 GN-88-0002	Water	2	418.1	B = Brecklage
8/3/88		0687-NS-114 GN-88-0002	Water	1	160.1, F300	
8/3/88		0687-NS-114 GN-88-0002	Water	2	6010, 7060, 7471, 7470, 7740	Total & Dissolved

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) P. Spatz Date 8/3/88
 Received by: (signed) P. Spatz Date 8/3/88

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex. Airbill # 7071901804
 Received for Lab: AMA Signed: AMA Date/Time 8/3/88
 Enseco Project No. 1170

White and Pink Copies to Lab

Yellow to Sampler

SS 001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Jeon Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V / WCC

Sampling Site SC-4, 5, 6

Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 2221

- Packed by: P. Spatz Seal # _____
- Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
- Condition of Contents: Packed w/ Blue Ice
- Sealed for Shipping by: P. Spatz
- Initial Contents Temp.: _____ °C Seal # _____
- Sampling Status: Done ☒ Continuing Until Mid-Sept.
- Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
- Contents Temperature Upon Receipt by Lab: _____ °C
- Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/9/88		0687-SO-115 6S-88-0001	Soil	2	418.1, 4010, 1471, 22216, 9010	B = Breakage ↓
8/9/88		0687-SO-115 6S-88-0001	Soil	2	8270	
8/9/88		0687-SO-115 6S-88-0001	Soil	1	8270	
8/9/88		NS 0687-SO-115 6W-88-0002	Water	3	8010	
8/9/88		0687-NS-115 6W-88-0002	Water	3	8020	
8/9/88		0687-NS-115 6W-88-0002	Water	2	418.1	B = Breakage ↓
8/9/88		0687-NS-115 6W-88-0002	Water	2	8270	
8/9/88		0687-NS-115 6W-88-0002	Water	1	160.1 / E300	
8/9/88		0687-NS-115 6W-88-0002	Water	2	4010, 7020, 1421, 1470, 7440	Total & Dissolved

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SAIC Ben [Signature] Date 8/9/88 Time 8:30

Received by: (signed) PA Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

Method of Shipment: Fed. Ex Airbill # 7071901301

Received for Lab: P. Spatz Signed: [Signature] Date/Time 8/9/88

Enseco Project No. 1170

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile 303/431-7171

Attn: J. Zimmerman

CHAIN OF CUSTODY

No. 2221

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid Sept.
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
 Project Elmendorf
 Sampling Co. B & V WCC
 Sampling Site SC-4, S, 6
 Team Leader Robin Hamlet (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/4/88		0687-50-116 GS-88-0001	Soil	2	418.1, 6010, 7471, 02216, 7010	B = Breakage ↓
8/4/88		0687-50-116 GS-88-0001	Soil	2	PHS 8240	
8/4/88		0687-50-116 GS-88-0001	Soil	1	9270	
8/4/88		0687-NS-116 GN-88-0002	Water	3	3010	
8/4/88		0687-NS-116 GN-88-0002	Water	3	8020	
8/4/88		0687-NS-116 GN-88-0002	Water	2	418.1	B = Breakage ↓
8/4/88		0687-NS-116 GN-88-0002	Water	2	8270	
8/4/88		0687-NS-116 GN-88-0002	Water	1	160.1, E300	
8/4/88		0687-NS-116 GN-88-0002	Water	2	6010, 7060, 7471, 7470, 7740	Total & Dissolve

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) SPM B. [Signature] Date 8/4/88 Time 8:30
 Received by (signed) Robin Hamlet Date 8/4/88 Time 8:30
 1. SPM B. [Signature]
 2. Robin Hamlet [Signature]
 3. _____

SHIPPING DETAILS

Delivered to Shipper by: Robin Hamlet
 Method of Shipment: Fed. Ex. Airbill # 70119 01301
 Received for Lab: RMT Signed: [Signature] Date/Time 8/10/88 9:35
 Enseco Project No. 1170

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421 6611 Facsimile: 303/431 7171

Attn: _____

Enseco Client BLACK & VEATCH

Project ELMENTORE AFB

Sampling Co. WOODWARD-CLYDE CONSULTANTS

Sampling Site SP-5

Team Leader ROBIN HANLEY (BIV)

CHAIN OF CUSTODY

No. 2621

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/9		0687-50-082 GS-88-0002	SOIL	2	418.1 / D2216	B = BREAKAGE
7/9		0687-50-082 GS-88-0002	SOIL	2	8240	↓
7/9		0687-50-082 GS-88-0002	SOIL	2	418.1 / D2216	D = DUPLICATE B = BREAKAGE
7/9		0687-50-082 GS-88-0002	SOIL	2	8240	↓
7/9		0687-50-083 GS-88-0001	SOIL	2	418.1 / D2216	B = BREAKAGE
7/9		0687-50-083 GS-88-0001	SOIL	2	8240	↓
7/9		0687-50-083 GS-88-0002	SOIL	2	418.1 / D2216	↓
7/9		0687-50-083 GS-88-0002	SOIL	2	8240	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) _____ Date _____ Time _____

Received by (signed) _____ Date 7/9/88 Time 1530

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS 5326 9624

Method of Shipment: MAIL Airbill # 52222222

Received for Lab: RMAL Signed: Y. HOOK Date/Time 7/11/88

Enseco Project No. 1060

White and Pink Copies to Lab Yellow to Sampler

TRACKING # 1442

Enseco - Rocky Mountain Analytical
4955 Yarrow Street
Arvada, Colorado 80002
303-421-6611 Facsimile 303-431-7171

Alt: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH
Project ELIENDORF AVE.
Sampling Co WERNER-GLYDE CONSULTANTS
Sampling Site SP-5
Team Leader ROBIN HAMLET (BTV)

CHAIN OF CUSTODY

No. 2626

SAMPLE SAFE™ CONDITIONS

- 1 Packed by L. EWERS Seal # _____
2 Seal Intact Upon Receipt by Sampling Co Yes _____ No _____
3 Condition of Contents PACKED W/ BLUE ICE
4 Sealed for Shipping by L. EWERS
5 Initial Contents Temp _____ °C Seal # _____
6 Sampling Status Done _____ Continuing Until _____
7 Seal Intact Upon Receipt by Laboratory Yes _____ No _____
8 Contents Temperature Upon Receipt by Lab _____ °C
9 Condition of Contents _____

Date	Time	Sample ID/Description	Sample Type	No Containers	Analysis Parameters	Remarks
7/11		0687-50-068	SOIL	2	418.1 / D2216	B = BREAKAGE
7/11		65-88-0001	SOIL	2	8240	
7/11		0687-50-068	SOIL	2	418.1 / D2216	
7/11		65-88-0001	SOIL	2	8240	
7/11		0687-50-068	SOIL	2	418.1 / D2216	D = DUPLICATE
7/11		65-88-0002	SOIL	2	8240	B = BREAKAGE
7/11		0687-50-068	SOIL	2	418.1 / D2216	
7/11		65-88-0002	SOIL	2	8240	
7/11		0687-50-068	SOIL	2	418.1 / D2216	B = BREAKAGE
7/11		65-88-0003	SOIL	2	8240	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date _____ Time _____
Received by (signed) [Signature] Date _____ Time _____
Received by (signed) [Signature] Date _____ Time _____

SHIPPING DETAILS

Delivered to Shipper by FED-EX L. EWERS
Method of Shipment AIRBILL # 565735754
Received for Lab Rox Signed [Signature] Date/Time 7/13/86
Enseco Project No 825

C. O. F. C. # 2626 + # 2638, SHIPPED TOGETHER - TOTAL CONTAINERS = 29

White and Pink Copies to Lab Yellow to Sampler

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421 6611 Facsimile: 303/431-7171

Attn: JEAN ZUMERMAN

Enseco Client BLACK + VEATCH

Project ELMHURST AFB

Sampling Co. WOODWARD - CLYDE CONSULTANTS

Sampling Site D-13

Team Leader ROBIN HAMLET (B+V)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by L. EVERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co. Yes ☒ No ☐
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: L. EVERS
5. Initial Contents Temp: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/16		0687-50-016 65-88-0001	SOIL	2	418.1/6010/7471	B = BREAK/ALC
7/16		↓	SOIL	2	8240	↓
7/16		↓	SOIL	1	8270/D2216	
7/16		0687-50-016 65-88-0002	SOIL	2	418.1/6010/7471	B = BREAK/ALC
7/16		↓	SOIL	2	8240	↓
7/16		↓	SOIL	1	8270/D2216	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 7/16/84 Time 1320
 Received by (signed) [Signature] Date 7/16/84 Time 1320

SHIPPING DETAILS

Delivered to Shipper by: L. EVERS
 Method of Shipment: UNITED AIR Airbill # 5326 7612
 Received for Lab: RMHL Signed [Signature] Date/Time 7/16/84
 Enseco Project No. _____

797

797

Enesco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 2628

SAMPLE SAFE™ CONDITIONS

Enesco Client: Black & Veatch

Project: LAUREL AFB

Sampling Co: WILSON - CLYDE CONSULTANTS (BIV)

Sampling Site: N5-2

Team Leader: LEAH HAMLET (BIV)

1. Packed by: L. EVERS

2. Seal Intact Upon Receipt by Sampling Co.: Yes

3. Condition of Contents: PACKED w/ BLUE ICE

4. Sealed for Shipping by: L. EVERS

5. Initial Contents Temp.: °C

6. Sampling Status: Done Continuing Until: MID-SEPT

7. Seal Intact Upon Receipt by Laboratory: Yes

8. Contents Temperature Upon Receipt by Lab: °C

9. Condition of Contents: °C

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/15/88		0027-50-107 0028-50-002 ↓	SOIL	1	412.1/7471/6010/9010 02216/6770/8080	D= DUPLICATE B= BREAKAGE
7/15/88		↓	SOIL	2	8240	↓
7/15/88		DEEP BLANK - 107		1		
7/15/88		TOTAL SAMPLES THIS SHIPMENT =		27		
7/15/88		CHAIN OF CUSTODY #1's				
7/15/88		2136/2631/2628				

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed): [Signature] Date: 7/15/88 Time: 1300

Received by (signed): [Signature] Date: 7/15/88 Time: 1300

SHIPPING DETAILS

Delivered to Shipper by: L. EVERS

Method of Shipment: UNITED AIRLINES Airbill # 5326 7661

Received for Lab: Enal Signed: Joseph G. Mac Date/Time: 7/17/88 0800

Enesco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

SS 001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & YEATCH

Project ELMBROOK AFB

Sampling Co WOODWARD-CLYDE CONSULTANTS

Sampling Site D-17

Team Leader ROBIN HALLER (BSV)

CHAIN OF CUSTODY

No. 267

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until MID-SUN.
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/16		0687-SO-025 CS-BB-0001	SOIL	2	418.1/6010/7471	B = BREAKAGE ↓
7/16		↓	SOIL	2	8240	
7/16		↓	SOIL	1	8270/8080/D2216	
7/16		0687-SO-025 CS-BB-0001	SOIL	2	418.1/6010/7471	D = DUPLICATE B = PRELIMINARY ↓
7/16		↓	SOIL	2	8240	
7/16		↓	SOIL	1	8270/8080/D2216	
7/16		↓	SOIL	2	418.1/6010/7471	B = BREAKAGE ↓
7/16		↓	SOIL	2	8240	
7/16		↓	SOIL	1	8270/8080/D2216	

CUSTOMER TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/16/88 Time 1600
 Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS
 Method of Shipment: UNITED AIR Airbill # 5326 7678
 Received for Lab: PMNL Signed: [Signature] Date/Time 7/16/88
 Enseco Project No. _____

White and Pink Copies to Lab

Yellow to Sampler

TR #11

767

Enseco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 2631

SAMPLE SAFE" CONDITIONS

955 Yarrow Street
Arad, Colorado 80002
303 421 6611 Fax: 303 431 7171

Alt: LENN ZAMERMAN

Enseco Client BLACK & VEATCH

Project ELIHEADORE AFB

Sampling Co. WILLIAM DOBSON CONSULTANTS / BIV

Sampling Site NS-2

Team Leader ROBIN HARLET (BIV)

1. Packed by: L. EWERS Seal # _____

2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐

3. Condition of Contents: PACKED W/ BLUE ICE

4. Sealed for Shipping by: L. EWERS

5. Initial Contents Temp.: _____ °C Seal # _____

6. Sampling Status: Done ☐ Continuing Until MID-SEPT

7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐

8. Contents Temperature Upon Receipt by Lab: _____ °C

9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/15		0087-50-107 GS-88-0001	SOIL	1	8270'/8080'	
7/15		↓	SOIL	1	418.1/7471/6010 9010/D2216	
7/15		↓	SOIL	1	418.1/7471/6010/9010 D2216/8270/8080	B= BREAKAGE
7/15		0087-50-107 GS-88-0001	SOIL	2	8240'	↓
7/15		↓	SOIL	1	8270'/8080'	
7/15		0087-50-107 GS-88-0002	SOIL	1	418.1/7471/6010 9010/D2216	
7/15		↓	SOIL	1	418.1/7471/6010/9010 D2216/8270/8080	B= BREAKAGE
7/15		↓	SOIL	2	8240'	↓
7/15		0087-50-107 GS-88-0002	SOIL	1	8270/8080	D= DUPLICATE
7/15		↓	SOIL	1	418.1/7471/6010 9010/D2216	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 7/15/88 Time 1300
 Received by (signed) [Signature] Date 7/15/88 Time 1300

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS
 Method of Shipment: UNITED AIRLINES Airbill # 5326 9661
 Received for Lab: RACAL Signed: Jack A. Mera Date/Time 7/17/88 700H
 Enseco Project No. _____

805

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Avada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: PAUL ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFE

Sampling Co. WYODWARD - CLYDE CONSULTANTS

Sampling Site D-3

Team Leader ROBIN HAMLET (B & V)

CHAIN OF CUSTODY

No. 2632

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until MID-SEPT
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/14		0687-50-004 GS-88-0001	SOIL	1	418.1/6010/7471	01
7/14			SOIL	1	8270/D2216	01
7/14			SOIL	1	418.1/6010/7471 8270/D2216	01 B = BREAKAGE
7/14			SOIL	2	8240	01 ↓
7/14		0687-50-004 GS-88-0002	SOIL	1	418.1/6010/7471	02
7/14			SOIL	1	8270/D2216	02
7/14			SOIL	1	418.1/6010/7471 8270/D2216	02 B = BREAKAGE
7/14			SOIL	2	8240	02 ↓
7/15		TEST BLANK FOR POSSIBLE BOTLE CONTAMINATION		1		No

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 7/14/88 Time 1300
 Received by (signed) [Signature] Date 7/14/88 Time 1300

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS
 Method of Shipment: Fed Ex Airbill # 7071901664
 Received for Lab: R.M.L. Signed: [Signature] Date/Time 7/14/88
 Enseco Project No. 756

Enesco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enesco Client BLACK & VEATCH

Project ELMHENDORF NFR

Sampling Co. WOODWARD-CLYDE CONSULTANTS

Sampling Site SP-5

Team Leader ROBIN HAMLET (EIV)

CHAIN OF CUSTODY

No. 2633

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until AMID-SEPT.
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/14		0687-50-081 GS-88-0001	SOIL	2	418.1/D2216	B = BREAKAGE
7/14		0687-50-081 GS-88-0001	SOIL	2	8240	
7/14		0687-50-081 GS-88-0002	SOIL	2	418.1/D2216	
7/14		0687-50-081 GS-88-0002	SOIL	2	8240	
7/14		0687-50-081 GS-88-0002	SOIL	2	418.1/D2216	D = DUPLICATE B = BREAKAGE
7/14		0687-50-081 GS-88-0002	SOIL	2	8240	
7/14		TRIP BLANK 081		1		
		TOTAL CONTAINERS THIS SHIPMENT =				
		(C of C #'s 2633 & 2632	SHIPPED TOGETHER			

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) _____ Date _____ Time _____

Received by: (signed) _____

1. John R. J. J. Date 7/14/88 Time 1330

2. John R. J. J. Date _____ Time _____

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS

Method of Shipment: Fed Ex Airbill # 7071901664

Received for Lab: PAAL Signed: John R. J. J. Date/Time 7/14/88

Enesco Project No. 2633

White and Pink Copies to Lab Yellow to Sampler

SS 001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Fax: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEES Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: L. EWEES
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Unill _____
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK & VEATCH
 Project ELMENDORF AFB
 Sampling Co. WARDWARD-CLYDE CONSULTANTS
 Sampling Site C-3
 Team Leader ROEIN HANLEY (BIV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/13		0687-50-003 GS-88-0001	SOIL	1	418.1/6010/7471	
7/13		0687-50-003 GS-88-0001	SOIL	1	8270/D2216	
7/13		0687-50-003 GS-88-0001	SOIL	2	8240	B = BREAKAGE
7/13		0687-50-003 GS-88-0001	SOIL	1	418.1/6010/7471 8270/D2216	B = BREAKAGE
7/13		0687-50-003 GS-88-0002	SOIL	1	418.1/6010/7471	
7/13		0687-50-003 GS-88-0002	SOIL	1	8270/D2216	
7/13		0687-50-003 GS-88-0002	SOIL	2	8240	B = BREAKAGE
7/13		0687-50-003 GS-88-0002	SOIL	1	418.1/6010/7471 8270/D2216	
7/13		0687-50-003 GS-88-0002	SOIL	1	8270	D = DUPLICATE B = BREAKAGE
7/13		0687-50-003 GS-88-0002	SOIL	1	↓	↓

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/13/88 Time 1730
 Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWEES
 Method of Shipment: FED-EX Airbill # 7071901675
 Received for Lab: RAAL Signed: [Signature] Date/Time 8:44 7/15/88
 Enseco Project No. _____

TRIP BLANK

White and Pink Copies to Lab

Yellow to Sampler

TOTAL CONTAINERS = 13 3

SS 001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

No. 2635

SAMPLE SAFE" CONDITIONS

1. Packed by: L. EVERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☐ No ☐
3. Condition of Contents: PACKED W/BLUE ICE
4. Sealed for Shipping by: L. EVERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until MID-SEPT.
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK & VEATCH
 Project ELMENDORF AFB
 Sampling Co. WOODWARD-CLYDE CONSULTANTS
 Sampling Site D-3
 Team Leader ROBIN HAMLET (BIV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/12		0687-50-0001 GS-88-0001	SOIL	1	418.1/6010/7471	43
7/12		0687-50-001 GS-88-0001	SOIL	1	8270/D2216	43
7/12		0687-50-001 GS-88-0001	SOIL	1	418.1/6010/7471 8270/D2216	34-Hold B-BREAKAGE
7/12		0687-50-001 GS-88-0001	SOIL	2	8240	43
7/12		0687-50-001 GS-88-0001	SOIL	1	418.1/6010/7471	54
7/12		0687-50-001 GS-88-0001	SOIL	1	8270/D2216	54
7/12		0687-50-001 GS-88-0001	SOIL	1	418.1/6010/7471 8270/D2216	43-Hold B-BREAKAGE
7/12		0687-50-001 GS-88-0001	SOIL	2	8240	54

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/12/88 Time 1920

Received by: (signed) [Signature] Date 7/14/88 Time 8:59

SHIPPING DETAILS

Delivered to Shipper by: L. EVERS

Method of Shipment: FED EX Airbill # 7071901686

Received for Lab: RAAL Signed: [Signature] Date/Time 7/14/88

Enseco Project No. 8:59

768 TR # 8

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFB

Sampling Co. WOODWARD - CLYDE CONSULTANTS

Sampling Site D-3

Team Leader ROBIN HAHLET (BIV)

CHAIN OF CUSTODY

No. 2636

SAMPLE SAFE™ CONDITIONS

- 1. Packed by: L. EWEERS Seal # _____
- 2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
- 3. Condition of Contents: PACKED ON BLUE ICE
- 4. Sealed for Shipping by: L. EWEERS
- 5. Initial Contents Temp.: _____ °C Seal # _____
- 6. Sampling Status: Done _____ Continuing Until MID-SEPT
- 7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
- 8. Contents Temperature Upon Receipt by Lab: _____ °C
- 9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/12		0687-50-002	SOIL	2	8240	1
7/12		65-88-0001	SOIL	1	418.1/6010/7471 -	1
7/12		0687-50-002	SOIL	1	8270/D2216 -	1
7/12		65-88-0001	SOIL	2	8240	2
7/12		0687-50-002	SOIL	1	418.1/6010/7471 -	B = BREAKAGE - 1/4
7/12		65-88-0001	SOIL	1	8270/D2216	2
7/12		0687-50-002	SOIL	1	8270/D2216	B = BREAKAGE - 1/4
7/12		0687-50-002	SOIL	1	418.1/6010/7471 -	2
7/12		65-88-0002	SOIL	1	8270/D2216	3
		TRIP BLANK				
		DID NOT ARRIVE				
		C of C: #'s 2635, 2636, 2637	SHIPPED TOGETHER -			
					TOTAL CONTAINERS = 33	

CUSTOMY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/12/88 Time 1810

Received by: (signed) [Signature] Date 7/12/88 Time 1810

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS

Method of Shipment: FED-EX Airbill # 7071901686

Received for Lab: BAK Signed: [Signature] Date/Time 7/14/88 9:00

Enseco Project No. _____

Enesco - Rocky Mountain Analytical
4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171
Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

No. 2637

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: L. EWERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK & VEATCH
Project ELMENDORF AFB
Sampling Co. WOODWARD-CLYDE CONSULTANTS
Sampling Site SP-5
Team Leader ROBIN HAMLET (BIV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/12		0687-50-066 65-88-0001	SOIL	2	418.1 / P2216	B = BREAKAGE 65
7/12		0687-50-066 65-88-0001	SOIL	2	8240	65
7/12		0687-50-066 65-88-0002	SOIL	2	418.1 / P2216	76
7/12		0687-50-066 65-88-0002	SOIL	2	8240	76
7/12		0687-50-066 65-88-0002	SOIL	2	418.1 / P2216	D = DUPLICATE 65 B = BREAKAGE 70
7/12		0687-50-066 65-88-0002	SOIL	2	8240	80-70
						6-9

CUSTODY TRANSFER PRIOR TO SHIPPING		Date	Time
Relinquished by (signed)	Received by (signed)	7/12/88	1200
<i>[Signature]</i>	<i>[Signature]</i>		
<i>[Signature]</i>			

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS

Method of Shipment: Fed - Ex Airbill # 7071901686

Received for Lab: Rmk Signed: [Signature] Date/Time 7/14/88

Enseco Project No. 859

140 TRACKING 46

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421 6611 Facsimile: 303/431 7171

Attn: EARL ZIMMERMAN

Enseco Client BLACK & VEATCH
 Project ELMBUDORF AFB
 Sampling Co. WOODWARD-CLYDE CONSULTANTS
 Sampling Site SP-5
 Team Leader ROBIN HANLEY (B.D.V.)

CHAIN OF CUSTODY

No. 2638

SAMPLE SAFE™ CONDITIONS

1. Packed by: L. EWEERS Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED ~~SEALED~~ IN BLUE I.C.
4. Sealed for Shipping by: L. EWEERS
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until MID-SEPT.
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/11		0687-50-069 65-88-0001	SOIL	2	418.1 / D2216	B= BREAKAGE 14
7/11		0687-50-069 65-88-0001	SOIL	2	8240	14
7/11		0687-50-069 65-88-0002	SOIL	2	418.1 / D2216	15
7/11		0687-50-069 65-88-0002	SOIL	2	8240	15
7/11		0687-50-069 65-88-0003	SOIL	2	418.1 / D2216	16
7/11		0687-50-069 65-88-0003	SOIL	2	8240	16
		TRIP BLANK		1		17

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/11/88 Time 1930
 Received by: (signed) [Signature] Date 7/11/88 Time 1930
 2 [Signature]
 3 [Signature]

SHIPPING DETAILS

Delivered to Shipper by: L. EWEERS
 Method of Shipment: FED-EX Invoice # 56573575.4
 Received for Lab: Road Signed: [Signature] Date/Time 7/3/88
 Enseco Project No. 825

146 TRACKING # 1

Enseco - Rocky Mountain Analytical
4955 Yarrow Street
Arvada, Colorado 80002
303/421 6611 Facsimile 303/431 7171

CHAIN OF CUSTODY

No. 2639

SAMPLE SAFE™ CONDITIONS

- 1. Packed by: L. EWERS Seal # _____
- 2. Seal Intact Upon Receipt by Sampling Co.: Yes ☐ No ☐
- 3. Condition of Contents: PACKED W/BLUE ICE
- 4. Sealed for Shipping by: L. EWERS
- 5. Initial Contents Temp: _____ °C Seal # _____
- 6. Sampling Status: Done ☐ Continuing Until MID-SEPT.
- 7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
- 8. Contents Temperature Upon Receipt by Lab: _____ °C
- 9. Condition of Contents: _____

Enseco Client BLAKE & VEAICH
Project ELMENDORF AFB
Sampling Co. WOODWARD-CLYDE CONSULTANTS
Sampling Site SP-5
Team Leader ROBIN HAMLET (B.I.V.)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/11		0687-50-069-067 65-88-0001	SOIL	2	418.1/D2216	B=BREAKAGE
7/11		0687-50-069-067 65-88-0001	SOIL	2	8240	
7/11		0687-50-069-067 65-88-0002	SOIL	2	418.1/D2216	
7/11		0687-50-069-067 65-88-0002	SOIL	2	8240	
7/11		0687-50-069-067 65-88-0003	SOIL	2	418.1/D2216	
7/11		0687-50-069-067 65-88-0003	SOIL	2	8240	
7/11		0687-50-069-067 65-88-0004	SOIL	2	418.1/D2216	
7/11		0687-50-069-067 65-88-0004	SOIL	2	8240	
		TRIP BLANK		1		
		TOTAL CONTAINERS = 17				

CUSTODY TRANSFER PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7/11/88 Time 1930

Received by: (signed) [Signature] Date 7/11/88 Time 1930

SHIPPING DETAILS

Delivered to Shipper by: L. EWERS

Method of Shipment: FED EX Ayrill # 5657357532

Received for Lab: RNAL Signed: [Signature] Date/Time 7/13/88

Enseco Project No. 8:26

746 1104 KLM 115

Enseco - Rocky Mountain Analytical
4955 Yarrow Street
Arvada, Colorado 80002
303/421 6611 Facsimile 303/431 7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

No. 2641

SAMPLE SAFE" CONDITIONS

- 1 Packed by: L. EWEPS Seal # _____
- 2 Seal Intact Upon Receipt by Sampling Co: Yes _____ No _____
- 3 Condition of Contents: PACKED W/ BLUE KE
- 4 Sealed for Shipping by: L. EWEPS
- 5 Initial Contents Temp: _____ °C Seal # _____
- 6 Sampling Status: Done _____ Continuing Until: MID-SOFT
- 7 Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
- 8 Contents Temperature Upon Receipt by Lab: _____ °C
- 9 Condition of Contents: _____

Enseco Client: BLACK & YEATCH
Project: ELMHEDORF AFB
Sampling Co: WOODWARD - CLYDE CONSULTANTS
Sampling Site: SP-5
Team Leader: ROBIN HAMLET (BIV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/11		0687-50-070 GS-88-0001	SOIL	2	418.1/D2216	B=BREAKAGE
7/11		0687-50-070 GS-88-0001	SOIL	2	8240	
7/11		0687-50-070 GS-88-0002	SOIL	2	418.1/D2216	
7/11		0687-50-070 GS-88-0002	SOIL	2	8240	
7/11		0687-50-070 GS-88-0003	SOIL	2	418.1/D2216	
7/11		0687-50-070 GS-88-0003	SOIL	2	8240	
7/11		0687-50-071 GS-88-0001	SOIL	2	418.1/D2216	
7/11		0687-50-071 GS-88-0001	SOIL	2	8240	
7/11		0687-50-071 GS-88-0002	SOIL	2	418.1/D2216	
7/11		0687-50-071 GS-88-0002	SOIL	2	8240	

CUSTODY TRANSFERS PRIOR TO SHIPPING
Relinquished by (signed): [Signature] Date: 7/11/88 Time: 1450
Received by (signed): [Signature] Date: 7/11/88 Time: 1450

SHIPPING DETAILS
Delivered to Shipper by: L. EWEPS
Method of Shipment: FED-EX Airbill # 5657357543
Received for Lab: Rox Signed: [Signature] Date/Time: 7/12/88
Enseco Project No: 825



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Avada, Colorado 80002
303/421 6611 Facsimile: 303/431 7171

Attn: Teco Zimmerman

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co B&V Woodward-Clyde
Sampling Site BH
Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 2871

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
9/30/88	930	0687-N6-123 GN-88-0003	Aqueous	2	418.1	B = Breakage
10/30/88				2	8270	↓
10/30/88				3	8010	
10/30/88				3	8010	ms
10/30/88				3	8010	msD
10/30/88				2	8270	ms B = Breakage
10/30/88				2	8270	msD ↓
10/30/88				3	8020	
10/30/88				3	8020	ms
10/30/88				3	8020	msD

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) PH Spatz Date 8/31/88 Time 0955
Received by (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed Ex Airbill # 9165542820
Received for Lab: PH Spatz Signed PH Spatz Date/Time 9/88
Enseco Project No. _____

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Aurora, Colorado 80002
303/421 6611 Facsimile 303/431 7171

Attn: Jean Zimmerman

Enseco Client

Black & Veatch

Project

Elmendorf

Sampling Co.

B&V/Woodward-Clyde

Sampling Site

BH

Team Leader

Robin Hamlet (B&V)

CHAIN OF CUSTODY

No. 2872

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/31/88	1350	0642-NG-123 GN-88 0003	Aqueous	2	418.1	3: Backlog
8/31/88				2	8270	↓
8/31/88				3	8010	
8/31/88				3	8020	
8/31/88				1	160.1/E300	
8/31/88	1350			2	6010/2060/7421/7470/7710	Total & Dissolved 40' has been filtered
9/8/88						
9/18/88						

CUSTODY TRANSFERS PRIOR TO SHIPPING

Requisitioned by: (signed) Bill Spatz Date 8/31/88 Time 0855
 1. Don Ben
 2. Bill Spatz

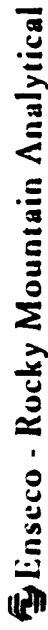
SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex Airbill # 9165542831
 Received for Lab: Bill Spatz Signed: Bill Spatz Date/Time 8/20/88
 Enseco Project No. _____

White and Pink Copies to Lab

Yellow to Sampler

SS 001



Enseco - Rocky Mountain Analytical

1955 Yarrow Street
Avada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V Woodward-Clyde

Sampling Site BH

Team Leader Robin Hamel (B & V)

CHAIN OF CUSTODY

No. 2873

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/31/88	1230	0687-N6- ¹²⁴ _{ML} GN-88-0003	Aqueous	2	418.1	B. Breakage
9/1/88				2	8270	↓
9/3/88				1	160.1/E300	
9/3/88				2	6010/7040/7421/7720/7770	Total & Dissolved "45" has been filtered
9/3/88				3	8010	
9/3/88	1230			3	8020	
9/30/88		ACB - BH	Aqueous	3	8010	
9/30/88		↓	Aqueous	3	8020	
9/30/88						

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) DMB Date 8/31/88 Time 0900

Received by (signed) PH Spatz

2 PH Spatz

3

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

Method of Shipment: Fed. Ex. Airbill # 9165542831

Received for Lab: AKT Signed Carol J. Kelly Date/Time 9/1/88

Enseco Project No. _____

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421 6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch
 Project Elwoodorf
 Sampling Co. B&V/ Woodward-Clyde
 Sampling Site BH
 Team Leader Robert Hamlet (B&V)

CHAIN OF CUSTODY

No. 2879

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/30/88	1730*	EB 8/30/88	Aqueous	2	418.1	B = Breakage
8/30/88	1530*			2	8270	↓
8/30/88				1	160.1 / E300	
8/30/88				2	6010/7060/7421/7470/7740	Total & Dissolved "40" has been filtered
8/30/88				3	8010	
8/30/88	1530		↓	3	8020	
8/30/88		0682-N6-122 GN-88-0003	Aqueous	1	160.1 / E30	
8/30/88		↓	↓	2	6010/7060/7421/7470/7740	Total & Dissolved "40" has been filtered
8/30/88		Trip Blank W-122	Aqueous	1	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) En B Date 8/31/88 Time 0900
 Received by: (signed) Rogin d Spatz
 1 En B
 2 P. H. Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: 2 Fed Ex
 Received for Lab: Albion Signed: Carl Kasper Date/Time 8/30/88
 Enseco Project No. _____

White and Pink Copies to Lab

Yellow to Sampler

SS 001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421 6611 Facsimile: 303/431 7171

Attn: J. Zimmerman

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: P Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P Spatz
5. Initial Contents Temp: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
 Project Elmendorf
 Sampling Co. B&V/WCC
 Sampling Site Esperanto Blank
 Team Leader Robin Hamlet (Det)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/9/88		EB 8/8/88	Water	3	8010	
8/9/88			Water	3	8020	
8/9/88			Water	2	8270	
8/9/88			Water	2	418.1	B = Breeding
8/9/88			Water	2	6010, 7060, 7421, 7470	7700 Total & Dissolved
8/9/88			Water	1	160.1, E300	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) 2m3c Date 9/7/88 Time 4:00
 Received by: (signed) PA Spatz
 1 PA Spatz
 2 PA Spatz
 3

SHIPPING DETAILS

Delivered to Shipper by: P Spatz
 Method of Shipment: Fed Ex Airbill # 7011901366
 Received for Lab: Bmo & Signed: Bmo & Date/Time: 9/7/88
 Enseco Project No. 1340

#38

Enseco - Rocky Mountain Analytical

100 Canyon Street
 Suite 100
 Fort Collins, Colorado 80502

Attn: J. Ziemer/ma

Enseco Client Black & Veatch

Project Elevador

Sampling Co. B&V/WCC

Sampling Site D13 / D-7

Team Leader Peter Hamlet (B&V)

CHAIN OF CUSTODY

No. 2884

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spate Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spate
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until Mid-Sept
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/1/88		0687-N6-015 6N-88-0003 ↓	Water	2	7740 6010, 7060, 7421, 7770,	Total & Dissolved
8/1/88			Water	1	160.1 / E300	
8/1/88		0687-N6-012 6N-88-0001	Water	3	8010	
8/1/88			Water	3	8020	
8/1/88			Water	1	160.1, E300	
8/1/88			Water	2	418.1	B = Breakage ↓
8/1/88			Water	2	8270	
8/1/88			Water	2	7740 6010, 7060, 7421, 7770,	Total & Dissolved

CUSTODY TRANSFERS PRIOR TO SHIPPING

To be completed by (signed) _____ Date _____ Time _____

Received by (signed) P. Spate 8/1/88 4:30

SHIPPING DETAILS

Delivered to Shipper by: P. Spate

Method of Shipment: Fed Ex

Airbill # 7071901966

Received for Lab: P. Ma

Signed: B. W. G. 57 Date/Time 8-11-88

Enseco Project No. 77802 1240

White and Pink Copies to Lab Yellow to Sampler

SS-001

CHAIN OF CUSTODY

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: J. Zimmerman

Enesco Client Black & Veatch
Project Elmendorf
Sampling Co. BAV / WCC
Sampling Site D-7
Team Leader Robin Hamlet (BAV)

CHAIN OF CUSTODY

SAMPLE SAFE® CONDITIONS

1. Packed by: P. Spatz Seal # _____

2. Seal Intact Upon Receipt by Sampling Co.:		Yes	No
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3. Condition o' Contents: Packed w/ Bric

4 Sealed for Shipping by: P. Spatz

5 Initial Contents Temp. °C Seal Wt

[illegible]

100

P. 368 **Impact of a description of causality:**

8. Contents Temperature Upon Receipt by Lab:

[illegible]

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)	Received by: (signed)	Date	Time

Received by: (signed)

Date Time

2010/01/07

SHIPPING DETAILS

Delivered to Shipper by: P. Spak

Spa

Method of Shipment: Fed. Ex

Airbill # 70-1610113

Received for Lab: *May* Signed: *K. Ward* Date/Time

Signed: B. Rogers Date/Time: _____

Date/Time

Enseco Project No.

1240

White and Pink Copes to Lab

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmermann

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B&V/WCC

Sampling Site SP-14

Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

No. 2887

SAMPLE SAFE" CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
2/11/88		0687-N6-099 GN-88-0001	Aqueous	2	418.1	B = Breakage
8/11/88			Aqueous	2	7421	Total & Dissolved
8/11/88			Aqueous	1	160.1	
8/11/88			Aqueous	3	E504	
8/11/88			Aqueous	3	8020	
8/11/88		0687-N6-098 GN-88-0001D	Aqueous	2	418.1	B = Breakage
8/11/88			Aqueous	2	7421	Total & Dissolved
8/11/88			Aqueous	1	160.1	
8/11/88			Aqueous	3	E504	
8/11/88			Aqueous	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sam B. Date 8/2/88 Time 0715

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex Airbill # 5657357576
 Received for Lab: BMA Signed: 4/88 Date/Time 4/12/88
 Enseco Project No. (1987)

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: John Zimmerman

CHAIN OF CUSTODY

No. 2889

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No _____
3. Condition of Contents: Packed in Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
 Project Elmendorf
 Sampling Co. B&V/Woodward-Clyde
 Sampling Site BH
 Team Leader Robin Hamlet (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/30/88	1500	0687-N6-121 6N-88-0002	Aqueous	1	418.1	
8/30/88				1	8270	total & dissolved
8/30/88				2	160.1 / 300 / 1440 / 7740	"40" has been filtered
8/30/88				3	8010	
8/30/88				3	8020	
9/3/88	1300			1	160.1 / E 300	
8/30/88		Trip Blank W-121	Aqueous	1	8020	
9-1-88						

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sam B. Date 8/31/88 Time 0945
 Received by: (signed) RH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Airbill # 9165542831
 Received for Lab: RLA Signed Carol K. Spatz Date/Time 9/1/88
 Enseco Project No. _____

White and Pink Copies to Lab

Yellow to Sampler

SS 001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Avada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

CHAIN OF CUSTODY

No. 2890

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
 Project Elmendorf
 Sampling Co. B & V Woodward-Clyde
 Sampling Site Bill
 Team Leader Robin Hamlet (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/30/88	1100	0687-NG-119 GN-88-0003	Aqueous	2	418.1	B = Breakage
8/30/88				2	8270	↓
8/30/88				1	1601/E300	
8/30/88				2	600/7000/7421/7470/7740	Total & Dissolved "40" has been Filtered
8/30/88				3	8010	
8/30/88				3	8020	
8/30/88		0687-NG-119 GN-88-0003.D	Aqueous	3	9010	D = Duplicate
8/30/88						
8/30/88						
8/30/88						

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Bill Spatz Date 8/31/88 Time 0850
 Received by: (signed) Bill Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Date 9/16/88 Time 1428
 Received for Lab: Bill Spatz Signed: Bill Spatz Date/Time 9/17/88
 Enseco Project No. _____

White and Pink Copies to Lab

Yellow to Sampler

SS (H)

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

No. 2900

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED IN BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK & VEATCH
Project ELMENDORF AFB
Sampling Co. WOODWARD-CLYDE / BIV
Sampling Site BH-3/BH-5
Team Leader ROBIN HAMLET (BIV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/20/88		0687-50-121 GS-88-0001	Soil	2	418.1/7471/6010/D2216	B = Breakage
8/20/88		↓	Soil	2	8240	↓
8/20/88		↓	Soil	1	8270	
8/20/88		0687-50-123 GS-88-0001	Soil	2	418.1/6010/7471/D2216	B = Breakage
8/20/88		↓	Soil	2	8240	↓
8/20/88		↓	Soil	1	8270	
8/20/88		0687-50-123 GS-88-0002	Soil	2	418.1/6010/7471/D2216	B = Breakage
8/20/88		↓	Soil	2	8240	↓
8/20/88		↓	Soil	1	8270	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) P. L. Spatz Date 8/20/88
Received by: (signed) P. L. Spatz Date 8/20/88

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: United Airlines Airbill # 6008 8000
Received for Lab: Enad Signed: 8/22/88 Date/Time 0900
Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

SS-001

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Aurora, Colorado 80002
303/421 6611 Facsimile: 303/431 7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B & V / Woodward-Clyde
Sampling Site SP-15
Team Leader Robin Hamlet (B & V)

CHAIN OF CUSTODY

No. 3114

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No _____
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/22/88		Q687-N6-100 GN-88-0003	Aqueous	2	418.1	B: Breakage
8/22/88				1	160.1	
8/22/88				2	742.1	Total & Dissolved '40' has been filtered
8/22/88				3	E504	
8/22/88				3	8020	
8/22/88		Q687-N6-101 GN-88-0003	Aqueous	2	418.1	B: Breakage
8/22/88				1	160.1	
8/22/88				2	742.1	Total & Dissolved '40' has been filtered
8/22/88				3	E504	
8/22/88				3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/23/88 Time 0750
Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex Airbill # 7071901830
Received for Lab: P. May Signed: 8 May 88 Date/Time 0800 8-24-88
Enseco Project No. _____



Enseco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 3115

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jeon Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V / Woodward-Clyde

Sampling Site SP-15

Team Leader Robin Hamlet (B & V)

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/22/88		0687 - NG - 101 101 ^{ms} GN-88-00030	Aqueous	2	418.1	B = Breakage D = Duplicate
8/22/88				1	160.1	
8/22/88				2	742.1	Total & Dissolved 45 has been filtered
8/22/88				3	550.4	
8/22/88				3	802.0	
8/22/88		ACB - SP-15	Aqueous	3	550.4	
8/22/88				3	802.0	
8/22/88		Trip Blank W-101	Aqueous	1	802.0	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SMB Date 8/23/88 Time 0755
Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Ex Airbill # 7071901830
Received for Lab: Emag Signed: B. Maga Date/Time 0800
Enseco Project No. 8-24-88

White and Pink Copies to Lab Yellow to Sampler



Enseco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 3116

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V Woodward - Clyde

Sampling Site D-17

Team Leader Robin Hamlet (B & V)

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/22/88		0687-NG-031 GN-88-0001	Aqueous	2	418.1	B = Breakage
8/22/88				1	160.1/E300	
8/22/88				1	9010	
8/22/88				2	6010/7000/7421/7470/7740	Total & Dissolved "40" has been filtered
8/22/88				3	8010	
8/22/88				3	8015	
8/22/88				3	8020	
8/22/88				2	8080	B = Breakage ↓
8/22/88				2	8270	
8/22/88		Tip Blank W-031	Aqueous	1	8010	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sm. Be Date 8/23/88 Time 0800
Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex. Airbill # 7071908863
Received for Lab: RMA Signed: C. Kipper Date/Time 9/23/88
Enseco Project No. _____

White and Pink Copies to Lab

Yellow to Sampler

SS-00

Attn: Sean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V Woodward-Clyde

Sampling Site D-17

Team Leader Robin Hamlet (B & V)

CHAIN OF CUSTODY

No. **3117**

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 3/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/22/88		0687-N6-032 GN-88-0001	Aqueous	2	418.1	B = Breakage
8/22/88				2	8080	
8/22/88				2	8270	
8/22/88				3	8010	
8/22/88				3	8015	
8/22/88				3	8020	
8/22/88				1	160.1/E300	
8/22/88				1	9010	
8/22/88				2	609/100/1121/1120/1140	Total & Dissolved "40" has been filtered

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) DMB Date 8/23/88 Time 0805
 Received by: (signed) P. Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex. App# 7071901863
 Received for Lab: R&B Signed: C. Spencer Date/Time 8/23/88
 Enseco Project No. _____

#58



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Black & Veatch
 Project Elmendorf
 Sampling Co. B.V./Woodward-Clyde
 Sampling Site D-17
 Team Leader Robin Hamlet (B.V.)

CHAIN OF CUSTODY

No. 3118

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/22/88		0647- NG-032 GN-88-00010	Aqueous	1	160.1/E300	D = Duplicate of
8/22/88				1	9010	
8/22/88				2	6010/7000/7421/7470/7740	Total & Dissolved "40" has been filtered
8/22/88				3	8010	
8/22/88				3	8015	
8/22/88				3	8020	
8/22/88				2	418.1	B = Breakage
8/22/88				2	8080	
8/22/88				2	8270	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SPATZ Date 8/23/88 Time 0810
 Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex. Airbill # 7071901863
 Received for Lab: EMAX Signed: 8maso Date/Time 8-24-88
 Enseco Project No. _____

Attn: Jean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V Woodward-Clyde

Sampling Site D-17

Team Leader Robin Hamblett (B & V)

CHAIN OF CUSTODY

No. 3119

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/22/88		ACB - D-17	Aqueous	3	8010	
8/22/88		EB 8/22/88 PAS	↓	3	8015	
8/22/88			↓	3	8020	
8/22/88		EB 8/22/88	Aqueous	2	418.1	B = Breakage
8/22/88			↓	2	8080 ✓	↓
8/22/88			↓	2	8270 ✓	
8/22/88			↓	1	160.1/E300	
8/22/88			↓	1	9010	
8/22/88			↓	2	6010/7060/7421/7470/7740	Total & Dissolved "40" has been filled
8/22/88			↓	3	8010 ✓	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/23/88 Time 0815

1. Sam Ba

2. PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

Method of Shipment: Fed. Ex Airbill # 7071901874

Received for Lab: Elmendorf Signed: LB magor Date/Time 0800 8-24-88

Enseco Project No. _____

White and Pink Copies to Lab

Yellow to Sampler

SS-001



Enseco - Rocky Mountain Analytical

4955 Yarrow Street

Arvada, Colorado 80002

303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

CHAIN OF CUSTODY

No. 3120

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B & V Woodward - Clyde
Sampling Site Equipment Blank / SR-1
Team Leader Robin Hamlet (B & V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/22/88		EB 8/22/88	Aqueous	3	8015	
8/22/88		↓	↓	3	8020	
8/22/88		↓	↓	3	ES04	
8/22/88		0687-N6-OSO 6N-88-0003D	Aqueous	3	8020	80-1
8/22/88		↓	↓	1	160.1	
8/22/88		↓	↓	2	418.1	B = Breakage
8/22/88		↓	↓	2	8270	↓
8/22/88		Trip Blank w-OSO	Aqueous	1	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SmB Date 8/22/88 Time 0820
Received by: (signed) P. H. Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed Ex Airbill # 7071901874
Received for Lab: Pmdx Signed: B. Magon Date/Time 8-24-88
Enseco Project No. _____



Enseco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No. 3121

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

SAMPLE SAFE™ CONDITIONS

Attn: Jean Zimmerman
Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B & V Woodward-Clyde
Sampling Site SP-1
Team Leader Robin Hemlock (B & V)

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/22/88		0687-N6-079 GN-88-0003	Aqueous	2	418.1	B = Breakage
8/22/88				2	8270	↓
8/22/88				1	160.1	
8/22/88				3	8020	
8/22/88		0687-N6-050 GN-88-0003	Aqueous	2	418.1	B = Breakage
8/22/88				2	8270	↓
8/22/88				1	160.1	
8/22/88				3	8020	
8/22/88		ACB - SP-1	Aqueous	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/23/88 Time 0825
1 EnB
2 PH Spatz
3

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex Airbill # 7071901874
Received for Lab: Emay Signed: 8 magon Date/Time 0800 8-21-88
Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

SS-001

CHAIN OF CUSTODY

Allein: Jean Zimmermann

Robin Hamlet (Bev)

CHAIN OF CUSTODY

SAMPLE 3:

1. Packed by: R. Spatz
2. Seal Intact Upon Receipt by Sampling Co.: _____
3. Condition of Contents: Packed well
4. Sealed for Shipping by: R. Spatz
5. Initial Contents Temp.: _____
6. Sampling Status: Done Continuing _____
7. Seal Intact Upon Receipt by Laboratory: _____
8. Contents Temperature Upon Receipt by Lab: _____
9. Condition of Contents: _____

No	Yes
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2. Seal Intact Upon Receipt by Sampling Co.: Yes

3. Condition of Contents: Packed w/ Blue Ice

4. Sealed for Shipping by: P Spats

6. Initial Contents Temp.: _____ °C Seal # _____

6. Sampling Status: Done Continuing Until 9/88

7. Seal Intact Upon Receipt by Laboratory:

8. Contents Temperature Upon Receipt by Lab:

8. Condition of Contents:

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/23/88		0687-N6-111 GN-S8-0003	Aqueous	3	8010	
8/23/88				3	8020	
8/23/88				2	418.1	B: Breake
8/23/88				2	8270	↓
8/23/88				1	160.1	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)	Received by: (signed)	Date	Time
SMB	P.A. Spach	8/2/88	1000
P.A. Spach			

SHIPPING DETAILS

Delivered to Shipper by: R Spake Airbill # 7071901830
Method of Shipment: Fed Ex
Received for Lab: R May Signed: B May Date/Time 8-2-68
Enseco Project No. _____

White and Pink Copies to Lab



Attn: Jason Zimmerman

Enseco Client Black & Veatch

Project Elmsdorf

Sampling Co. B & V / Woodward - Clyde

Sampling Site SP-5/SP-4

Team Leader Robin Hamlet (B & V)

CHAIN OF CUSTODY

No. 3124

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal N

2. Seal Intact Upon Receipt by Sampling Co.:		Yes	No
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3. Condition of Contents: Packed w/ Blue Ice.

4. Sealed for Shipping by: P. Spatz

5. Initial Contents Temp.: _____ °C Seal # _____

6. Sampling Status: Done Continuing Until 9/88

7. Seal Intact Upon Receipt by Laboratory:

8. Contents Temperature Upon Receipt by Lab: _____ °C

9. Condition of Contents:

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
5/29/88		0687-N6-126 6N-88-0003	Aqueous	2	418.1	B. Breakage
5/29/88				1	160.1	
5/29/88				3	8020	
5/29/88		0687-N6-065 6N-88-0003	Aqueous	2	418.1	B. Breakage
5/29/88				2	8270	↓
5/29/88				3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

	Received by: (signed)	Date	Time
--	------------------------------	-------------	-------------

Received by: (signed)

Date Time

3mBe- Revised South 8/30/61 0730

2 Pk 3205

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

Method of Shipment: Fed Ex

Received for Lab: EMA

Enseco Project No.

White and Pink Copies to Lab

Yellow to Sampler

100 SS

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Tren Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B&V / Woodward-Clyde

Sampling Site D-5

Team Leader Robin Hambley (B&V)

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 3125

1. Packed by: P Spatz Seal # _____

2. Seal Intact Upon Receipt by Sampling Co.: Yes No

3. Condition of Contents: Packed w/ Blue Ice

4. Sealed for Shipping by: P Spatz

5. Initial Contents Temp.: _____ °C Seal # _____

6. Sampling Status: Done Continuing Until 9/88

7. Seal Intact Upon Receipt by Laboratory: Yes No

8. Contents Temperature Upon Receipt by Lab: _____ °C

9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/29/88		06887-NG-007 6N-28-0001	Aqueous	2	418.1	Bs Breakage
8/29/88				2	8270	↓
8/29/88				1	160.1 / 6300	Total & Dissolved
8/29/88				2	600/700/7424/7770/7770	"4D" has been filtered
8/29/88				3	8010	
8/29/88				3	8020	
8/29/88		EB 8/29/88	Aqueous	3	8010	
8/29/88		↓	↓	3	8020	
8/29/88		Trip Blank W-007	Aqueous	1	8010	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Ember Date 8/30/88 Time 0740
 Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P Spatz
 Method of Shipment: Ex Airbill # 9165542816
 Received for Lab: Emay Signed: Bmago Date/Time 0800 8-21-88
 Enseco Project No. _____

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Avondale, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enseco Client Bleck & Veatch
 Project Elmendorf
 Sampling Co. BAV/Woodward-Clyde
 Sampling Site D-5
 Team Leader Robin Hamlet (BAV)

CHAIN OF CUSTODY

No. 3146

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/29/88		0687-N6-009 EN-18-0001	Aqueous	2	418.1	B = Breakage ↓
8/29/88				2	8270	
8/29/88				1	160.1/E300	
8/29/88				2	6010/7060/7424/7470/7740	
8/29/88				3	8010	
8/29/88				3	8020	
8/29/88				2	418.1	B = Breakage ↓
8/29/88				2	8270	
8/29/88				1	160.1/E300	
8/29/88				2	6010/7060/7424/7470/7740	Total & Dissolved 40" has been F. 1/10/89

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) RA Spatz Date 8/30/88 Time 0750
 Received by: (signed) RA Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Airbill # 9165542816
 Received for Lab: Enad Signed: 8/31/88 Date/Time 0800
 Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

SS-001

#66

RMA 1477

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

CHAIN OF CUSTODY

No. 3147

SAMPLE SAFE™ CONDITIONS

1. Packed by P Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed in Blue Ice
4. Sealed for Shipping by: P Spatz
5. Initial Contents Temp: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Bect & Veatch
Project Elmendorf
Sampling Co. B&V Woodward Clyde
Sampling Site Drill Cuttings - Base Wide
Team Leader Robin Hamlett (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/31/88	1600	123-CS	Soil	2	8240	B = Breakage ↓
			Soil	2	8270	
			Soil	1	1310/D2216	
		456-CS	Soil	2 ^{PHS}	8240	B = Breakage ↓
			Soil	2	8270	
			Soil	1	1310/D2216	
		7-CS	Soil	2	8240	B = Breakage ↓
			Soil	2	8270	
			Soil	1	1310/D2216	
		Trip Blank CS	Soil	1	8240	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Spatz Date 9/1/88 Time 0945
Received by: (signed) Reg H Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Ex Airbill # 9165542958
Received for Lab: RMA Signed: Reg H Spatz Date/Time 9-1-88
Enseco Project No. 1477

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Joan Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V / Woodward-Clyde

Sampling Site SP-14

Team Leader Robin Hamlet (B&V)

CHAIN OF CUSTODY

No. 3148

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/24/88		0687-N6-096 GN-88-0003R	Aqueous	1	600/7060/7421/7470/7740	Unsubstantiated Re-Examination
8/24/88		0687-N6-097 GN-88-0003R		1	600/7060/7421/7470/7740	
8/24/88		0687-N6-098 GN-88-0001R		1	600/7060/7421/7470/7740	
8/24/88		0687-N6-098 GN-88-0001DR		1	600/7060/7421/7470/7740	Unsubstantiated Re-Examination
8/24/88		0687-N6-099 GN-88-0001R		1	600/7060/7421/7470/7740	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) San Bern Date 8/25/88 Time 0930
 Received by: (signed) Phil Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Airbill # 9165540111
 Received for Lab: B&V Signed: Phil Date/Time: _____
 Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171
Attn: Jean Zimmerman

CHAIN OF CUSTODY

No. 3149

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed in Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B & V/Woodward Clyde
Sampling Site Equipment Blank
Team Leader Robin Hamlet (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/23/88		EB 8/23/88	Aqueous	2	418.1	B-Backlog
8/23/88				2	8270	↓
8/23/88				1	160.1/E300	
8/23/88				3	8010	
8/23/88				3	8020	
8/23/88				2	6010/7060/7121/7170/7740	Filed & tested in 40' test lab on 8/24/88

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sam Bon Date 8/24/88 Time 0915
Received by: (signed) Bill Spatz
1 Sam Bon
2 Bill Spatz
3 _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed Ex Airbill # 71111111
Received for Lab: Bill Signed: Bill Date/Time: _____
Enseco Project No. 1370

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Tean Zimmerman

Enseco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V Woodward-Clyde

Sampling Site BW-S2

Team Leader Robin Hamlet (B & V)

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spate Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spate
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 2/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/23/88		0647-N6-125 GN-88-0001B	Aqueous	1	160.1/E300	Disruptive
8/23/88				3	8010	
8/23/88				3	8026	
8/23/88				2	718.1	Disruptive
8/23/88				2	8270	
8/23/88				2	6010/7060/7421/7410/7710	Not a duplicate

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Sm B... Date 8/24/88 Time 0915
 Received by: (signed) PH Spate
 1. Sm B...
 2. PH Spate
 3. _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spate
 Method of Shipment: Fed Ex Airbill # _____
 Received for Lab: RMA Signed: dk Date/Time _____
 Enseco Project No. 1370



Enseco - Rocky Mountain Analytical

4955 Yarrow Street

Arvada, Colorado 80002

303/421-6611 Facsimile: 303/431-7171

Attn: Tean Zimmerman

Enseco Client

Black & Veatch

Project

Elmendorf

Sampling Co.

B4V/Woodward-Clyde

Sampling Site

SP-S/NS-3

Team Leader

Rubin Hermler (B4V)

CHAIN OF CUSTODY

No. 3151

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spate Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spate
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 7/89
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/23/88		0687-50-126 GS-88-0001	Soil	2	418.1/132216	B4V ↓
8/23/88		↓		2	8240	
8/23/88		0687-50-126 GS-88-0002		2	418.1/132216	
8/23/88		↓		2	8240	
8/23/88		ACB-NS-3	Aqueous	3	8010	
8/23/88		↓		3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

- Relinquished by: (signed) SMB Date 8/24/88 Time 0905
- Received by: (signed) PH Spate
1. SMB
2. PH Spate
3. _____

SHIPPING DETAILS

- Delivered to Shipper by: P. Spate
- Method of Shipment: Fed. Ex. Airbill # _____
- Received for Lab: RVA Signed: AL Date/Time: _____
- Enseco Project No. 1370

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Sean Zimmerman

Enseco Client Black & Veatch
Project Elmendorf
Sampling Co. B & V / Woodward-Clyde
Sampling Site BW-2
Team Leader Robin Hamlet

CHAIN OF CUSTODY

No. 3152

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/23/88		06827-NG-118 GN-88-0001D	Aqueous	1	1601/F300	Decontaminated
8/23/88				2	418.1	Decontaminated
8/23/88				2	8270	1
8/23/88				2	6010/7020/7421/7470/	7740 Total & individual 9421 & 7020 (all)
8/23/88				3	8010	
8/23/88				3	8020	
8/23/88		ACB-BW	Aqueous	3	8010	
8/23/88				3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SMB Date 8/24/88 Time 0700
Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: Fed. Ex. Airbill # _____
Received for Lab: RMA Signed: PH Date/Time _____
Enseco Project No. 1370

White and Pink Copies to Lab

Yellow to Sampler

NS 000

Enesco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Jean Zimmerman

Enesco Client Black & Veatch

Project Elmendorf

Sampling Co. B&V Woodward-Clyde

Sampling Site NS-3

Team Leader Robin Hanley (B&V)

CHAIN OF CUSTODY

No. 3153

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spate Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spate
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

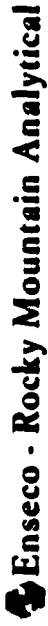
Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/23/88		0687-NG-110 GN-88-0003	Aqueous	2	418.1	Be. Breakage
8/23/88				2	8270	
8/23/88				1	160.1	
8/23/88				3	8010	
8/23/88				3	8020	
8/23/88		0687-NG-113 GN-88-0003	Aqueous	2	418.1	Be. Breakage
8/23/88				2	8270	
8/23/88				1	160.1	
8/23/88				3	8010	
8/23/88				3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SMB Date 8/24/88 Time 0855
 Received by: (signed) PH Spate

SHIPPING DETAILS

Delivered to Shipper by: P. Spate
 Method of Shipment: Fed Ex Airbill # 111
 Received for Lab: PH Spate Signed: PH Spate Date/Time 8/24/88
 Enesco Project No. 1370



Enseco - Rocky Mountain Analytical

4955 Yarrow Street

Arvada, Colorado 80002

303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

No. 3154

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK & VEATCH
Project ELMENDORF AFB
Sampling Co. WOODWARD-CLYPE/B&V
Sampling Site SP 2/6
Team Leader ROBIN HAMMER (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/13/88		0687-NG-054 GN-88-0002	Aqueous	2	418.1	B = Breakage
8/13/88		↓	Aqueous	2	8270	↓
8/13/88		↓	Aqueous	1	160.1	
8/13/88		↓	Aqueous	3	8020	
8/13/88		EB 8/13/88	Aqueous	3 2	418.1	B = Breakage
8/13/88		↓	Aqueous	2	8270	
8/13/88		↓	Aqueous	1	160.1	
8/13/88		↓	Aqueous	3	8020	
8/13/88		0687-NG-015 GN-88-0002B	Aqueous	1	7740 6010, 7060, 7121, 7470	R = Resampled Dissolved Only

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/13/88 Time 1545
Received by: (signed) PH Spatz

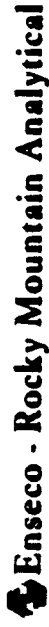
SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: United Airlines Airbill # 5326 9790
Received for Lab: Amex Signed: 6 May 87 Date/Time 8-15-88
Enseco Project No. 1029

White and Pink Copies to Lab

Yellow to Sampler

EN-1001



Enseco - Rocky Mountain Analytical

4955 Yarrow Street

Arvada, Colorado 80002

303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client

BLACK & VEATCH

Project

ELMENDORF AFB

Sampling Co.

WOODWARD-CLUPE/BIV

Sampling Site

SP-4

Team Leader

ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 3155

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/12/88		0687-N6-063 GN-8-0003	Aqueous	2	418.1	B = Breakage
8/12/88		↓	Aqueous	2	8270	↓
8/12/88		↓	Aqueous	3	8020	
8/12/88		EB 8/12/88	Aqueous	2	418.1	B = Breakage
8/12/88		↓	Aqueous	2	8270	↓
8/12/88		↓	Aqueous	1	160.1	
8/12/88		↓	Aqueous	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)

Received by: (signed)

Date

Time

1. SP-4 8/12/88 1700

2. SP-4 8/12/88 1700

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

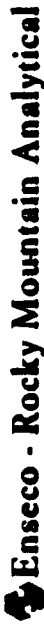
Method of Shipment: United Airlines

Airway # 5326 9715

Received for Lab: MLAL

Signed C. Kasper Date/Time 8/15/88

Enseco Project No. 1729



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFB

Sampling Co. WOODWARD-CLYDE / BIV

Sampling Site SP-12

Team Leader ROBIN HAWLEY (BIV)

CHAIN OF CUSTODY

No. 3156

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☐ No ☐
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/12/88		0687-N6-092 GN-88-0001	Aqueous	2	418.1	B = Breakage
8/12/88		↓	Aqueous	1	160.1	
8/12/88		↓	Aqueous	3	802.0	
8/12/88		0687-N6-093 GN-88-0001	Aqueous	2	418.1	B = Breakage
8/12/88		↓	Aqueous	1	160.1	
8/12/88		↓	Aqueous	3	802.0	
8/12/88		ACB-SP12	Aqueous	3	802.0	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)	Received by: (signed)	Date	Time
<u>Sm Ben</u>	<u>P. H. Spatz</u>	<u>8/12/88</u>	<u>1415</u>
<u>P. H. Spatz</u>			

Delivered to Shipper by: <u>P. Spatz</u>	SHIPPING DETAILS	
Method of Shipment: <u>United Airlines</u>	Airbill # <u>5326</u>	9775
Received for Lab: _____	Signed: <u>1229</u>	Date/Time: _____
Enseco Project No. _____		

White and Pink Copies to Lab

Yellow to Sampler

SS 001



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project BLANDORF AFB

Sampling Co. WOODWARD-CLYDE / BIV

Sampling Site SP 2/6

Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 3157

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☐ No ☐
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/13/88		0687-N6-053 6N-88-0002	Aqueous	2	418.1	B = Breakage ↓
8/13/88			Aqueous	2	8270	
8/13/88			Aqueous	1	160.1	
8/13/88			Aqueous	3	8020	
8/13/88		0687-N6-053 6N-88-0002D	Aqueous	2	418.1	D = Duplicate
8/13/88			Aqueous	2	8270	B = Breakage
8/13/88			Aqueous	1	160.1	
8/13/88			Aqueous	3	8020	
8/13/88		0687-N6-107 6N-88-0002B	Aqueous	1	7740	(Dissolved only)
8/13/88		0687-N6-106 6N-88-0002B	Aqueous	1	690, 7060, 7421, 7470, 7740	(R = Resample)

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/13/88 Time 1530
Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: United Airlines Airbill # 5326 9790 8900
Received for Lab: Enmay Signed: 8/13/88 Date/Time 8:15-88
Enseco Project No. 1229

[illegible]

1229 #45

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

No. 3163

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: INT

Enseco Client BLACK & VEATCH
Project ELMENDORF AFB
Sampling Co. WOODWARD-CLYDE/BIV
Sampling Site SP-11
Team Leader ROBIN HAMLET (BIV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/12/88		0687-N6-090- GN-88-0001	Aqueous	2	418.1	B: Breakage 01
8/12/88		↓	Aqueous	1	160.1	01
8/12/88			Aqueous	3	8020	01
8/12/88		0687-N6-091 GN-88-0001	Aqueous	2	418.1	B: Breakage 02
8/12/88		↓	Aqueous	1	160.1	02
8/12/88			Aqueous	3	8020	02
8/12/88		ACB - SP 11	Aqueous	3	8020	02
8/12/88		Trip Blank W-90	Aqueous	1	8020	04

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (s/need) San Ben Reported by: (signed) Robin Hamlet Date 8/12/88 Time 1400
1. San Ben
2. Robin Hamlet
3. _____

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
Method of Shipment: United Airlines Airbill # 5326 9775 Date/Time 8:00 PM
Received for Lab: MLA Signed C. McKeel Date/Time 8:15 PM
Enseco Project No. 1229

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Sean Zimmerman

CHAIN OF CUSTODY

No. 3183

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. Spatz Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No _____
3. Condition of Contents: Packed w/ Blue Ice
4. Sealed for Shipping by: P. Spatz
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client: Black & Veatch
 Project: Elmendorf
 Sampling Co.: BEV/Woodward-Clyde
 Sampling Site: D-3 / D-7/D-13
 Team Leader: Robin Hamlet (BEV)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
11/88		0687-N6-001 GN-88-0003	Aqueous	3	8010	
11/88				3	8020	
11/88				2	48.1	B = Breakage
11/88				2	8270	↓
11/88				1	160.1 E300	
11/88				2	6010/7060/7421/7470/7740	Total & Dissolved "40" has been filtered
11/88		0687-N6-012 GN-88-0001R		1	6010/7060/7421/7470/7740	R = Resampled
11/88		0687-N6-013 GN-88-0001R		1	6010/7060/7421/7470/7740	
11/88		0687-N6-017 GN-88-0003R		1	6010/7060/7421/7470/7740	↓
11/88		Tip Blank W-001	Aqueous	1	8010	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) SMBC Date: 6/17/88 Time: 2010
 Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: United Airlines Airbill # 016-6008 7976
 Received for Lab: Ensay Signed: B. M. Spatz Date/Time: 8-22-88
 Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler

SS-001

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile

303/421-6611 Facsimile: 303/431-7171

Alin: Jean Zimmermann

Ensoco Client Black & Veatch

Project Elmendorf

Sampling Co. B & V / Woodward-Clyde

Sampling Site D-3

Team Leader Robin Hamlet (B & V)

CHAIN OF CUSTODY

No. 3184

SAMPLE SAFE™ CONDITIONS

1. Packed by: P Spatz Sea/W

2. Seal Intact Upon Receipt by Sampling Co.:		Yes	No
1			
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3. Condition of Contents: Packed w Blue Ice

4. Sealed for Shipping by: P. Seatz

Initial Contents Item: 1

3. Initial Comments Temp.: _____ Date: _____

8. Sampling Status: Done Continuing Until 9/88

7. Seal/Intact Upon Receipt by Laboratory:

8. Contents Temperature Upon Receipt by Lab: _____ °C

9. Condition of Contents:

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/17/88		0687-NG-002 GN-88-0003	Aqueous	2	418.1	B = Breakage
8/17/88				2	8270	↓
8/17/88				1	163.1/E300	
8/17/88				2	6010/7060/7421/7470/7740	Total & Dissolved "ID" has been filtered
8/17/88				3	8010	
8/17/88				3	8020	
8/17/88		ACB - D-3		3	8010	
8/17/88				3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)

Received by: (signed)

Date Time

5102 8/6/18 Leeds AA 3176

5102 89/61/8

5102 89/61/8

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

Delivered to Shipper by: P. Spatz

Delivered to Shipper by: P. Spatz

Method of Shipment: United Airlines Airbill # 6008795

Method of Shipment: United Airlines Airbill # 6008795

Method of Shipment: United Airlines Airbill # 6008795

Received for Lab: _____
Inseco Project No. _____

(iii) §§(vi)

#55

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Tegan Zimmerman

CHAIN OF CUSTODY

No. 3185

SAMPLE SAFE™ CONDITIONS

1. Packed by: P Spatz Seal # _____
 2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
 3. Condition of Contents: Packed w/ Blue Ice
 4. Sealed for Shipping by: P Spatz
 5. Initial Contents Temp: _____ °C Seal # _____
 6. Sampling Status: Done _____ Continuing Until 7/88
 7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
 8. Contents Temperature Upon Receipt by Lab: _____ °C
 9. Condition of Contents: _____

Enseco Client Black & Veatch
 Project Elmerdref
 Sampling Co. B & V/ Woodward-Clyde
 Sampling Site D-3
 Team Leader Robin Hamlet (B&V)

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/17/88		0687-NG-003 6N-88-0003	Aqueous	2	418.1	B = Breakage
8/17/88				2	8270	↓
8/17/88				1	160.1/E300	
8/17/88				2	6010/1060/7421/7470/7770	Total & Dissolved "40" has been filtered
8/17/88				3	8010	
8/17/88				3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/19/88 Time 2020
 1. PH Spatz
 2. PH Spatz
 3. _____

SHIPPING DETAILS

Delivered to Shipper by: P Spatz
 Method of Shipment: United Airlines Airbill # 6008 7996
 Received for Lab: Emad Signed: B. Mayo Date/Time 8-22-88
 Enseco Project No. _____

When and How Samples to be Shipped to Laboratory

SS (mt)

#40

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Avada, Colorado 80002
 303-421-6611 Facsimile: 303-431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK J VENTURE

Project ELMENDORF AFB

Sampling Co. WARDWARD-CLEVE/BIV

Sampling Site D-7

Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 3194

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/08
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/10/88		0607-NG-010 GN-88-0001	Water	1	160.1 / E309	
8/10/88			Water	2	418.1	B: Breakage
8/10/88			Water	2	8270	↓
8/10/88			Water	2	6010, 7000, 7421, 7470, 7740	Total & Dissolved
8/10/88			Water	3	8010	
8/10/88			Water	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signature) [Signature] Date 8/11/88 Time 9:15
 Received by: (signature) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Airbill # 7071901782
 Received for Lab: Rmax Signed: S. Maga Date/Time 8-12-88
 Enseco Project No. 1206

White and Pink Copies to Lab

Yellow to Sampler

SS (all)

#40

Enseco - Rocky Mountain Analytical

1900 Canyon Street
 Avondale, Colorado 80012
 303/421-6411 Fax: 303/431-7171

Attn: JEAN ZIMMERMANEnseco Client BLACK & VEATCHProject ELMENDORF AFBSampling Co. WOODWARD-CLYDE (B4V)Sampling Site D-7Team Leader ROBIN HAMLET (B4V)

CHAIN OF CUSTODY

No. 3195

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/08
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
5/10/58		06827-NG-010 GN-88-0001D	Water	1	1601/E300	D = Duplicate <u>MDU</u>
5/10/58			Water	2	418.1	B = Breakage <u>MDU</u>
5/10/58			Water	2	8270	↓ <u>MDU</u>
5/10/58			Water	2	6010, 7069, 7421, 7470	7740 Total & Dissolve <u>MDU</u>
5/10/58			Water	3	8010	<u>MDU</u>
5/10/58			Water	3	8020	<u>MDU</u>

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/11/58 Time 9:11Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. SpatzMethod of Shipment: Fed. ExAirbill # 7071901782 Date/Time 8-12-58Received for Lab: RmaSigned: B. MagazEnseco Project No. 1306

White and Pink Copies to Lab

Yellow-Jp Sampler

66-111

55-56

#40

Enseco - Rocky Mountain Analytical

4555 Yankee Street
Avondale, Colorado 80012
303-421-6611 Fax: 303-431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFB

Sampling Co. WOODWARD-CLYDE / BIV

Sampling Site 10-5-7

Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 3198

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # 9/88
6. Sampling Status: Done _____ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
2/10/88		Q687-N6-Q11 6N-88-0001	Water	1	160.1 / E300	
2/11/88			Water	2	418.1	Bc Breakage
2/12/88			Water	2	8270	↓
2/12/88			Water	2	6010, 7060, 7421, 7470, 7740	Total & Dissolved
2/13/88			Water	3	8010	
2/13/88			Water	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by (signed) [Signature] Date 8/11/88 Time 9:11

Received by (signed) [Signature] Date 8/11/88 Time 9:11

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

Method of Shipment: Fed. Ex Airbill # 7071901782

Received for Lab: Joseph G. Miller Date/Time 8/11/88

Enseco Project No. 1206

White and Pink Copies to Lab

#40

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Avada, Colorado 80002
 303 421 6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK J VEATCH

Project ELMENDORF AFB

Sampling Co. WOODWARD-CLYPE/BIV

Sampling Site D-7

Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 3199

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
5/10/88		0687-NS-014 GN-88-0001	Water	1	160.1/E300	
5/12/88			Water	2	418.1	B = Breakage
5/14/88			Water	2	8270	↓
5/17/88			Water	2	6019, 7069, 7421, 7470	Total & Dissolved
5/17/88			Water	3	8010 Broke v02	
5/17/88			Water	3	8020	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 5/11/88 Time 9:15
 Received by: (signed) [Signature] Date 5/11/88 Time 9:15

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed. Ex. Airbill # 7071901782
 Received for Lab: [Signature] Signed: [Signature] Date/Time 5/12/88
 Enseco Project No. 1206

441

Enseco - Rocky Mountain Analytical

4955 Yankee Street
Avondale, Colorado 80012
303/421-6611 Fax: 303/431-7171

Attn: JEAN ZIMMERMAN

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED W/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enseco Client BLACK & VEATCH
Project ELMENDORF AFB
Sampling Co. WOODWARD-CLYDE / Biv
Sampling Site SP2/G
Team Leader ROBIN HAMLET (Biv)

No. 3200

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/10		CW 87-116-061 GN-88-0001	AQUEOUS	2	418.1	B= BREAKAGE
			AQUEOUS	1	160.1	
			AQUEOUS	3	8020	
			AQUEOUS	2	8270	B= BREAKAGE
8/10		CW 87-116-062 GN-88-0001	AQUEOUS	2	418.1	↓
			AQUEOUS	1	160.1	01
			AQUEOUS	3	8020	01
			AQUEOUS	2	8270	B= BREAKAGE

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/11/88 Time 0915

Received by: (signed) [Signature]

SHIPPING DETAILS

Delivered to Shipper by: P. SPATZ

Method of Shipment: FEDEX Airbill # 7071901760

Received for Lab: DMG Signed: B Major Date/Time 8-12-88

Enseco Project No. 1206

#41

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Avada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK + VEATCH
Project ELMENDORF AFB
Sampling Co. WOODWARD-Clyde (BIV)
Sampling Site EB's ONLY
Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 3202

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes _____ No _____
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done _____ Continuing Until 7/88
7. Seal Intact Upon Receipt by Laboratory: Yes _____ No _____
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/10		EB 8/10/88	AQUEOUS	2	418.1	B = BREAKAGE
		EB 8/10/88	AQUEOUS	2	8270	B = BREAKAGE
		EB 8/10/88	AQUEOUS	3	8010	
		EB 8/10/88	AQUEOUS	3	8020	
		EB 8/10/88	AQUEOUS	1	160.1	
8/10		EB 8/10/88	AQUEOUS	2	6010/7060/7421 7470/7740	B = BREAKAGE

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/11/88 Time 0915
Received by: (signed) [Signature]
2. [Signature] Date 8/11/88 Time 0915

SHIPPING DETAILS

Delivered to Shipper by: P. SPATZ
Method of Shipment: FED - EX Airbill # 7071901760
Received for Lab: Enmex Signed: [Signature] Date/Time 8-12-88 8:35 am
Enseco Project No. 1326

1142

Enseco - Rocky Mountain Analytical

4000 Aurora Street
Aurora, Colorado 80012
303 421-0611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFB

Sampling Co. WARDWARD - CLYDE / BIV

Sampling Site SP2/6

Team Leader ROBIN HAMMETT (BIV)

CHAIN OF CUSTODY

No. 3201

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/10		0607-N6-051 LN-08-0002	AQUEOUS	1	160.1	01
			AQUEOUS	2	418.1	01 B= BREAKAGE
			AQUEOUS	3	8020	01
			AQUEOUS	2	8270	01 B= BREAKAGE
8/10		0607-N6-052 LN-08-0002	AQUEOUS	1	160.1 ✓	02
			AQUEOUS	2	418.1	02 B= BREAKAGE
			AQUEOUS	3	8020	02
			AQUEOUS	2	8270	02 B= BREAKAGE
8/10		ACB-SP 2/6 8/8/88	AQUEOUS	3	8020	03
8/10		EB 8/10/88-6	AQUEOUS	2	6007106071421 1410/1140	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/18/88 Time 9:15
Received by: (signed) [Signature] Date 8/18/88 Time 9:15

SHIPPING DETAILS

Delivered to Shipper by: P. SPATZ
Method of Shipment: FED EX Airbill # 7071901771
Received for Lab: Enseco Signed: 6 mago Date/Time 8-13-88
Enseco Project No. 1206

White and Pink Copies to Lab Yellow to Sampler

Enseco - Rocky Mountain Analytical

4935 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORE AFB

Sampling Co. WOODWARD-CLYDE (BIV)

Sampling Site BW-2

Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 3203

SAMPLE SAFE" CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☒ No ☐
3. Condition of Contents: PACKED w/ BLUE ICE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☒ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☒ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/23/88		0687-N6-118 GN-88-0001	Aqueous	1	160.1/E300	Initial & Final
8/23/88				2	1060/6010/7421/1110/7110	Initial & Final
8/23/88				2	418.1	B. Recd.
8/23/88				2	8270	
8/23/88				3	8010	
8/23/88				3	8020	
8/23/88				1	8020	
8/23/88		Trip Blank W-118	Aqueous			

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) PH Spatz Date 8/24/88 Time 0850
 Received by: (signed) PH Spatz

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz
 Method of Shipment: Fed Ex Airbill # 71111111
 Received for Lab: RAW Signed: PH Date/Time 8/24/88
 Enseco Project No. 1370



Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: JEAN ZIMMERMAN

Enseco Client BLACK & VEATCH

Project ELMENDORF AFB

Sampling Co. WOODWARD-CLYDE (BIV)

Sampling Site SP-14

Team Leader ROBIN HAMLET (BIV)

CHAIN OF CUSTODY

No. 3204

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes ☐ No ☐
3. Condition of Contents: PACKED w/ BLUE KE
4. Sealed for Shipping by: P. SPATZ
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done ☐ Continuing Until 9/88
7. Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/11/88		0687- N6-097 GN-88-0003	Aqueous	2	418.1	04 B= Breakage
8/11/88			Aqueous	1	160.4	
8/11/88			Aqueous	2	742.1	Total & Dissolved
8/11/88			Aqueous	3	802.0	
8/11/88			Aqueous	3	802.0	MS
8/11/88			Aqueous	3	802.0	MSD
8/11/88			Aqueous	3	E504	
8/11/88			Aqueous	3	E504	MS
8/11/88			Aqueous	3	E504	MSD
8/11/88		ACB-SP14	Aqueous	3	E504	Ambient Cond. Blank

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature]

Received by: (signed) [Signature]

Date 8/12/88 Time 0715

SHIPPING DETAILS

Delivered to Shipper by: P. Spatz

Method of Shipment: Fed. Ex. Airbill # 5657357576

Received for Lab: RMA Signed: [Signature] Date/Time 8/12/88

Enseco Project No. 0600

White and Pink Copies to Lab

Yellow to Sampler

SS 001

1201 FF 43

Enseco - Rocky Mountain Analytical
 4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

CHAIN OF CUSTODY

Attn: JERRY ZIMMERMAN

Enseco Client: BLACK & VEATCH

Project: ELMENDORF AFB

Sampling Co. WOODWARD-CLYDE / Biv

Sampling Site: SP-14

Team Leader: ROBIN HAMLET (Biv)

SAMPLE SAFE™ CONDITIONS

1. Packed by: P. SPATZ Seal # _____

2. Seal Intact Upon Receipt by Sampling Co.: Yes No

3. Condition of Contents: PACKED W/ BLUE ICE

4. Sealed for Shipping by: P. SPATZ

5. Initial Contents Temp.: _____ °C Seal # _____

6. Sampling Status: Done Continuing Until 9/88

7. Seal Intact Upon Receipt by Laboratory: Yes No

8. Contents Temperature Upon Receipt by Lab: _____ °C

9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
8/11/88		0687-NG-096 6N-88-0003	Aqueous	2 02	418.1	B = Breakage
8/11/88			Aqueous	1	160.1	
8/11/88			Aqueous	2	772.1	Total & Dissolved
8/11/88			Aqueous	3	802.0	
8/11/88			Aqueous	3	E504	
8/11/88		0687-NG-098 6N-88-0001	Aqueous	2 03	418.1	B = Breakage
8/11/88			Aqueous	1	160.1	
8/11/88			Aqueous	2	772.1	Total & Dissolved
8/11/88			Aqueous	3	802.0	
8/11/88			Aqueous	3	E504	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 8/11/88 Time 0715

Received by: (signed) [Signature] Date 8/11/88 Time 0715

SHIPPING DETAILS

Delivered to Shipper by: P. SPATZ

Method of Shipment: Fed. Ex Airbill # 5651357576

Received for Lab: RMA Signed: [Signature] Date/Time 8/11/88

Enseco Project No. 1800

